

ECONOMIC RECONSTRUCTION OF INDIA

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ECONOMIC RECONSTRUCTION OF INDIA

A STUDY IN ECONOMIC PLANNING

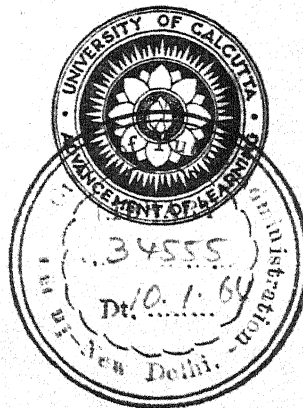
WITH A
FOREWORD
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PREFACE

With the War clouds gathering all around us, I feel a considerable diffidence in placing a book like this in the hands of the public. Even in times of peace the subject-matter of this book would perhaps have evoked no more enthusiasm than a little lifting of the eye-brow in mild interest. With the trumpet of the War calling humanity to fresh sacrifices at the altar of the lust for power, a demand for the reconstruction of a country like India is perhaps doomed to float aimlessly about like a cry in the wilderness.

As an extenuation, I might, perhaps, point to the fact that this work had been taken in hand when there was no immediate threat of a War; but that is hardly necessary. In fact, as the War dissolves old obsessions and prejudices, it creates new fellowships and renews our faith in the ultimate ideals of humanity; in this background, efforts at social and economic reconstruction derive a special strength and justification. That a fifth of the world's population which is comprised within our vast sub-continent should stand perpetually on the poverty line should have seemed incredible by itself if it had not been such a stubborn fact of our daily existence. The point of wonder is that the effort to end this state of things should be thought to require a justification at any time. If at all, the revaluation of the world's civilization that the War must involve has made a study of the Indian problem all the more urgent. In fact, the subject has ceased to be merely academic. I, therefore, make no apology for proclaiming my faith in the ultimate destiny of India to the reconstruction of which this book professes to contribute an humble effort.

Planning as I see it is a call for co-operation and thus it provides a platform for the evolution of a better type of nationhood. It is a call for the mobilization of the nation's energies, irrespective of political affiliations and party alignments. In this endeavour, the Indian National Congress has already taken a lead, which shows that the question has a tremendous practical bearing today. The Congress Plan may, however, be greatly improved, as I hope it will be improved, when the Plan is fully matured. This work is a modest attempt to indicate and explain the implications of a full-fledged Economic Plan for India.

I must, however, confess that in writing this book I have suffered from a double set of limitations. In the first place,

my own incompetence has set obvious limits to my efforts for which I crave the indulgence of those who know better. Secondly, since volumes could be written on each of the different aspects of an Economic Plan for India, I could devote no more than a perfunctory attention to some of the topics dealt with in the book. All that I claim is that I have attempted to show the main lineaments of the picture with a brief elucidation of the *motif* in each case. It is for my readers to say how far I have succeeded. I had intended to add a chapter on the Congress Economic Plan, but as the Plan is not yet ready, I had to drop the idea as any discussion of the same would have been premature. I shall be quite satisfied if a study of this book results in a fuller appreciation of the background that must control our efforts at planning and help us to realize the ideal that the nation has set for itself.

Finally I have the pleasant duty of recording my appreciation of all the help and suggestions that I have received from different sources in the preparation of this work. To Dr. J. P. Niyogi, M. A., Ph. D., Minto Professor of Economics, Calcutta University, for his sympathy and interest ; to Principal Panchanan Sinha, M. A., of the Asutosh College, Calcutta, for his consistent encouragement in my work ; to my friend and colleague Dr. Dhirendranath Sen, M.A., Ph.D., Editor *Hindusthan Standard* and Lecturer, Calcutta University, for his help ; to my pupil, Mr. Subimal Chandra Mukherjee, M.A., Research Scholar in the Department of Economics, Calcutta University, for preparing the Index to this book ; to Mr. Kanai Lal Gupta for correcting the final proofs ; and to numerous friends and colleagues for useful suggestions and criticisms while the work had been in progress—I offer my sincere and grateful thanks and hope that they will accept this small acknowledgment. I may also mention that Chapter II of this book is based upon a paper contributed by the author to the Indian Economic Conference, 1934.

Last, but not the least, I have to thank Pandit Jawaharlal Nehru for the kind Foreward that he has contributed to this book. That he has been able to do so in spite of his numerous pre-occupations speaks of his great sympathy for the object with which this work has been undertaken.

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FOREWORD

By PANDIT JAWAHARLAL NEHRU

Chairman, National Planning Committee, India.

FEW subjects in India are of more vital importance than the economic reconstruction of the country on a planned basis. I have long been a believer in planned economy, and my past experience with the National Planning Committee has convinced me all the more that any progress or reconstruction of our economic or social life must be undertaken on this planned basis. I welcome therefore this book which deals with the various aspects of economic planning. I hesitate as a rule to associate myself with books dealing with current problems, lest it might be thought that I accept the argument or the objectives laid down in the book. In this particular instance I am suffering under a further disability. I have seen but not read any part of the book so far. I cannot therefore express agreement or disagreement with its arguments or conclusions nor obviously can I commit the National Planning Committee, of which I have the honour to be Chairman, to any suggestions or proposals put forward in this book.

I have however looked through the table of contents of this book and the mere enumeration of the chapter heads and sections has interested and fascinated me. Any attempt to deal with this vital and vast subject in this comprehensive way is worthy of attention and encouragement. We are too apt to concentrate on separate issues and not attempt to see or understand the full picture of a nation's activities. And yet it is only this full picture that enables us to understand each component part of it. It is the business of the National Planning

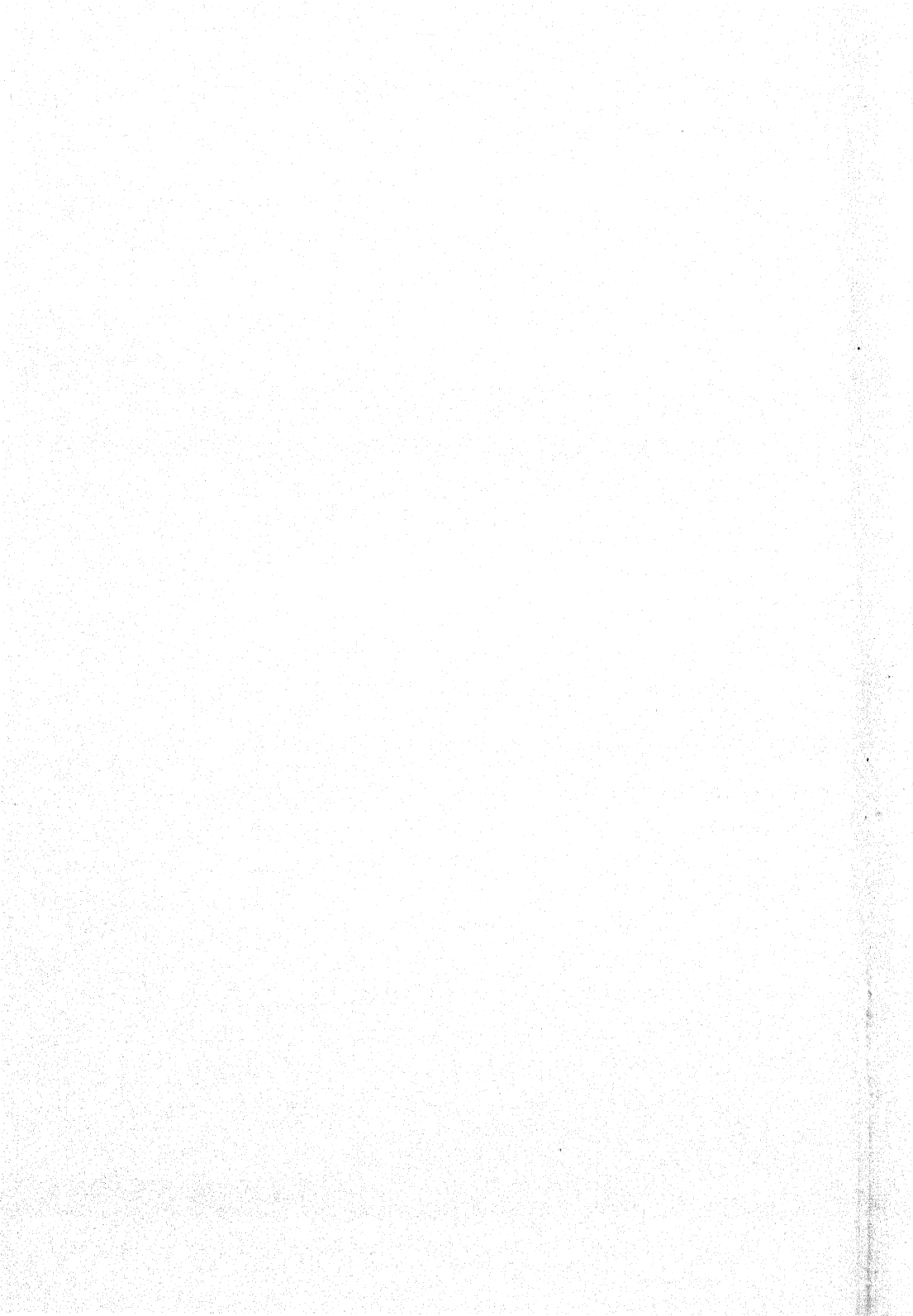
Committee to draw up this full picture in outline so that all of us may know the road we have to travel and the objective in view. Real planning will then take place on this basis and the noble structure of a nation's life and economy built up in proper proportion and symmetry.

Shri Khagendranath Sen's book appears to give an outline plan of this national picture and something must be said in it in regard to most of the subjects that are coming up before us in the National Planning Committee. I do not know, not having read the book, how far I am in agreement with his approach, but in so far as I can judge from the table of contents, the book is worthy of consideration from all those who are interested in planning and the economic reconstruction of India. It is not very material whether we agree or disagree with his arguments and conclusions. I am sure that we can in any event profit by this comprehensive survey of an urgent present day problem.

Economic planning and reconstruction are necessary at any time, but in these days of war and impending collapse of the economic order to which we have been used, it becomes still more urgently necessary for us to give thought to this vital problem. The day will soon come, if it is not already upon us, when we shall have to build hard and build extensively. We can only do so with advantage if large numbers of people in our country have given thought to this matter and we have drawn up in our minds, as well as more concretely, blue-prints of the India to-morrow.

ALLAHABAD,
Sept. 19, 1939.

Jawaharlal Nehru



PART I.
PRINCIPLES AND PROCEDURE

CHAPTER I

ECONOMIC PLANS AND PLANNING

§ 1

INEVITABILITY OF PLANNING.

There are several reasons why a study of the principles of economic planning and their application to the different phases of India's economic life is opportune at the present moment. The failure of the *laissez faire* system ; the fight for self-sufficiency either individually or in groups among the States ; the new theories of the State ; the political and economic transformation of India ; the growing complexity of modern economic life—provide the wide background against which efforts for future reconstruction must be brought into relief. Planned reconstruction is no longer a utopian dream. The effort is already there, in varying degrees, in Russia, the United States of America, Germany, France, even Britain ; and, naturally enough, its results have not always had the same measure of success in all countries. That the effort is being made is perhaps more important than what success it has so far achieved.

In any enlightened State, such an effort in the circumstances that confront it due to the failure of the old competitive system is clearly inevitable. For the old device of trusting to the automatic working of economic freedom as the solvent of all temporary maladjustments is no longer available to the Governments, to the economic interests concerned, or to the public. Nor could a policy of somehow muddling through and taking things as they come be counted upon lest we should be left behind in the race. For though competition in the older sense has been given up, competition in a more dangerous aspect has set in. Tariff walls, economic legislation, executive decrees, and other impediments in the way of the free exchange of goods as the basis of economic prosperity have compelled nations to look inward and organize their resources to the best possible advantage so as to make themselves not only independent

of one another as far as possible but to equip themselves with all the material requisites of well-being so necessary as a provision against war, actual or *in posse*.

§ 2

PLANNING MUST BE COMPREHENSIVE.

The economic life of a nation is an entity, an organic whole, in which agriculture, industry, trade, commerce and transport play each their due part, in the background of the State. A purely agricultural country is not a factor for economic stability any more than a purely manufacturing or industrial country is. Trade feeds commerce and both move on the wheels of transport lubricated by finance, connecting the centres of production with the centres of demand. That inter-relation between them which results in the maximum of social advantage at the minimum of cost is the relation which it is the business of rationalization to determine and bring about. Our economic theories and ideas need also to be revised. As an instance, I might refer to the exaggerated emphasis which is placed on securing stability of the purchasing power. That is conceived of as the essence of planned money. It is no doubt true that a stable purchasing power of money is an essential basis of a normal economic system. But we must not forget that a stable purchasing power of money may co-exist with elements of waste in industry, agriculture, commerce and transport. And it should be the business of economic planning not only to rationalize banking policy but also to enable it to work with the speediest and maximum effect on the economic system of the country. In other words, a stable purchasing power cannot be regarded as the *sine qua non* of our economic life unless the latter itself were rationalized. Of what good, from the point of view of general welfare, is it to explain, for instance, that the income of a family of seven has remained stable if the family consists of two well-educated unemployed young men all the time? This kind of stability is not desirable.

All this goes to prove that piecemeal planning without a co-ordinated plan embracing the interdependent parts of the economic machinery of the State as a whole would not be rational in the sense in which it ought to be rational. On the other hand, piecemeal planning may create vested interests which might subsequently resist the adoption of a more comprehensive plan of rationalization.

Besides, and at best, it would only postpone the stage at which the inherent forces of maladjustment would be operative. At any event, it would be imperfect because it would of necessity be based upon imperfect data. If, for instance, the system of transport is rationalised, the needs and requirements of each form of transport would presumably be adjusted to the needs and requirements of other forms of transport, but the problem would still remain of adjusting the system of transport as a whole to the needs of agriculture, trade, commerce and industry. In the absence of a solution of the problem the whole question of transport rationalization would be based on insecure foundations. This is, it must be noticed, quite apart from the intimate relations that exist between different scales of freight and the question of the economic development of the country. As a matter of fact, to assume a certain volume of traffic and to regulate transport accordingly may actually be a beginning at the wrong end. Potential traffic is as much a consideration as pre-existing traffic and may, in fact, be more valuable than the latter. Fortunately, a well managed transport system understands it, but the point which is raised here is that if a transport agency insists on charging rates that may prevent or retard the development of a new industry or a new area that is desirable from the interests of the country as a whole—and this is by no means a theoretical assumption—the rationalization of transport alone, or for the matter of that, of any part of the economic system independently of the rest, will not conduce to the well-being of the country as a whole.

§ 3

PLANNING MUST BE NATIONAL.

The first consideration being that a scheme of “planned economy” must not be confined to a single or a few specific industries, the second consideration that we should urge is that the framework within which the scheme of rationalization is to work must be the nation: for we are too far from internationalism to predicate to it that unity of purpose and points of contact between the constituent elements which we can postulate of a nation under one Government. Besides, it is a curious paradox of our life that we see nothing strange in the fact that we do not apply to the foreigner the same standards of utility and preferences as we assume for the nationals of a country. This difference between the two codes of conduct has been, we may remark incidentally, the parent of many, if not most, of the evils from

which the world is suffering to-day. National differences are real, and the only kind of internationalism that can succeed in the future, having regard to the principles of democracy and self-determination is that which will be based upon a true conception of healthy nationalism, instead of being independent of, or super-imposed upon a narrow egoistic ideal. Schemes of reform, economic, political or humanitarian, have often foundered because of the omission from the calculations of reformers of the influence of nationalism on such questions. In economics, particularly, the clash of interests is very acute. Whenever a financial or economic conference sits, we hear now and then of "lobbying influences". Not only in the manipulations of the stock exchanges but also in the regulation of currency and tariffs do the lobbying influences make themselves particularly evident. Rationalization of the economic system through appropriate instruments is, perhaps, the only remedy against the predominance which the highly organised of the business interests in a country come to enjoy not only in such matters but even in international economic parleys which are supposed to be conducted by the ablest representatives of the nation. When the sectional interests to be found in a country are allowed to fight their own battle, the result becomes only an extension of Rob Roy's principle—only, the measure of might becomes something other than the strength of the muscle. The national interest suffers; which could be avoided only if all the interests were made subject to a common national economic policy.

All these considerations point to the necessity, if not the urgency, of conserving all our available resources, if not improving upon them, and planning their most effective utilization. Thanks to the pioneering efforts made in the countries referred to above, and a number of brilliant and pain-taking studies made of the subject, there need be no want of data or materials which would help us in suggesting, if not determining, the main outlines of a planned economic system for India.

§ 4

ILLUSTRATIONS FROM OTHER COUNTRIES.

The published studies on the subject give us an idea not only of the problems to be faced but of the difficulties inherent in planning and of how the new world order is trying to grapple with them.

We have the brilliant studies of the general problem by Sir Arthur Salter, Mr. H. J. Laski, Sir Henry Strackosch and Mr. G. D. H. Cole, the brilliant, but more domestic treatises of Sir Basil Blackett, Mr. Harold Macmillan and Mr. Roosevelt, the treatment of specific problems by Mr. J. M. Keynes and other notable writers. Of the study of specific plans and national programmes, we have a number of excellent studies of the Russian experiment, and an equally excellent symposium of views on the National Recovery Administration in America including an authoritative analytical review by the President himself. The appendices to Sir Arthur Salter's Report on "A scheme for an Economic Advisory Organisation in India" give a very helpful summary of national economic organizations and legislation in different countries. In India, we have got two serious studies of the subject, one by Sir M. Visvesvaraya and the other by Mr. S. C. Mitter. The former deals with an all India plan while the latter writes of Bengal. All these are apart from the spate of articles and papers—some of them very well informed and useful—that have appeared in newspapers and other periodical journals from time to time, and which have undoubtedly helped to focus the attention of the world on this difficult and complicated subject and to create an intelligent and discriminating public opinion in favour of the attempts that are now being made to deal with it.*

Planning may be as varied as the thorough-going plans of Soviet Russia and the U.S.A. or the purely advisory organizations as that set up in Britain in 1930, or simply *ad hoc* or standing committees to advise on particular aspects of the economic problems. The national economic organizations may, again, be governmental or institutional, a mere committee of the Cabinet with a body of experts attached to it, or an authority representative of all the economic interests in the country. The purposes also vary. A committee of the Ministry has usually the co-ordination of Government departments with some amount of planning for the future as its object. A non-official body has greater latitude but it is necessarily confined purely to advisory functions. An institutional body with an academic bias, on the other hand, is concerned more with fact-finding investigations or the collection of necessary and relevant statistics than with the direct solution of economic problems. Very often, the non-official

*The Congress scheme of industrial planning will form the subject matter of a separate chapter.

body is itself nothing more than a fact-finding organization, an institution for collection and co-ordination of statistical information. the recommendation of measures being left entirely to the executive Government.

The advisory institutions, in point of fact, embody, as Sir Arthur Salter has pointed out, two different principles; that of securing *expert* judgment and that of securing *representative* advice. The first principle has been adopted in Britain, the second was adopted in Germany in the National Economic Council plan of 1930. Sometimes the two principles are combined as in France and most of the other European countries. The corporative system of Italy is *sui generis* being a part of the organization of the state itself. The fact-finding and statistical institutions have been prominent in Germany, United States, France, Hungary, Austria, Poland and Belgium. In Britain, on account of the presence of the Prime Minister and several other Ministers on the expert body, departmental co-ordination of Governmental activities is secured. On account of the fact that the councils or the economic advisory organizations are advisory and not executive, there has been no incentive so far for these bodies to bother about questions of policy. Nevertheless, being independent of changing Governments, they might be instrumental to a considerable extent in securing a greater continuity of national policy than would otherwise be possible. This has particularly been the case with representative bodies established under statute.

The "*konjunktur*" institutes, that is, fact-finding or statistical institutions, have been responsible for a great deal of improvement of statistical and commercial intelligence which must in every country provide the main determinants of economic progress. *Apropos* of these institutes, we must not ignore the special inquiries that have been made in different countries the results of which have been very valuable from the economist's point of view. Such enquiries can be conducted either by the appointment of *ad hoc* Commissions of Enquiry—the hitherto accepted traditional method of investigation—or by setting up small expert sub-committees of a larger parent body. This last is the method adopted by the British Economic Advisory Council—a method which seems to have been followed by the Government of Bengal in setting up the Bengal Board of Economic Enquiry. In some countries, as in Poland, mul-

multiple advisory authorities have been set up. In that country, there is first of all the Economic Committee which is a purely inter-ministerial body. Contact with non-official opinion is secured by means of three advisory Committees, one each on Trade and Industry, Agriculture and Labour. Expert and technical assistance is provided by the Institute of Economic Research which constitutes a link between official Government circles and scientific economic research. Temporary co-operation was secured by the creation of a special Committee of Enquiry into the conditions and costs of production and trade. This Committee was required to enquire into the following branches of economic activity : coal, coke and briquettes, petroleum and its by-products, iron and steel, textile materials, leather and hides, clothing and outfitting, grain, bread, sugar, cereals meat and dairy products, bricks, cement, lime and other housing materials, artificial manure, fodder and electric power. The Committee was composed of, besides the Chairman and Vice Chairman, 6 members representing Chambers of Commerce and central organizations of industry, mining and trade and finance, 9 members representing Trade Unions, 6 members representing Chambers of Agriculture and Agricultural Producers' Associations, 2 members representing co-operative societies 6 members nominated from experts in economic theory and practice and 4 co-opted members, in all, 33 members . Each ministry was to have a permanent representative on the Committee of Enquiry and on its sub-committees, who would participate in their proceedings in a consultative capacity. Wide powers were given to the Committee for calling evidence, inspection of files and records, secret information being, of course, treated confidentially.

§ 5

THE INDIAN PROBLEM.

It is evident from this brief description that it would be idle to expect a ready-made plan of economic development for this country. There is a bewildering diversity even in the composition of membership. On the one hand we have the German Economic Council set up in 1920 with 396 members—a veritable Economic Parliament—and on the other, its French counterpart with 47 members. The British Economic Council set up under the Treasury minute dated 27th January, 1930 was, on the other hand, a predominantly official body which published neither any report nor any recommendations or documents for public

information. India will naturally have to adapt one of these plans to her purposes or evolve a plan of her own. She presents, as Sir Arthur Salter observes, not a single system but a quadruple system, for the categories seeking co-ordination include the departments *inter se* of the Central Government, those of the Provincial Governments, the relations between the Centre and the Provinces, and those of the Provinces as between themselves, not to speak of activities in which the Government is not concerned. In other words, the Indian scheme must consist of Central as well as Provincial Councils. In the second place, Sir Arthur is perfectly correct in stating that the great body of opinion in this country favours the representative model rather than a Government dominated expert body. So long as the present irresponsible character of the Central Government continues, with constitutional issues of a far-reaching character impending, there could not be any other view. It is a natural and healthy reaction, and no sinister bias need be read into it.

As regards the procedure or purposes of co-ordination, it is much more difficult to make suggestions. Though the general trend of economic organizations in the continent of Europe, barring a few exceptions, favours the advisory type—the type recommended also by Sir Arthur Salter—intelligent opinion in this country does not favour it. This is not only because of the irresponsible character of the Government but also because of the unsatisfactory experience that India has of the way the Government have treated the recommendations of the many Commissions and Committees that they had set up from time to time. A tangible assurance is wanted which would prevent the Indian Economic Council from being merely an ornamental body, and our proposals must therefore be framed in order to give real power and prestige to the Council. This will, of course, be an impractical proposition unless there was a constitutional devolution of some of the functions now discharged by the executive Government in favour of this body. Our advocacy of planning would be entirely without point if the Government were not prepared to examine the need and possibilities of such a devolution of authority. The actual scope of planning in India is discussed in the following chapter where the constitutional aspect of the question will be more fully discussed: here it is sufficient to point out that the adoption of an all India plan will depend upon the constitution and the spirit

in which it is worked. The American Constitution, rigid as it is, has made the Roosevelt Administration possible.

The other considerations remain to be noticed. Some emphasis has, of late, been placed on the necessity of improving economic intelligence in the country. The necessity of carrying out a comprehensive economic survey of the country before a national economic programme can be laid down has already been recognized. In a subsequent chapter, the question of the organization of economic intelligence has been dealt with. A suggestion has been made therein for the appointment and maintenance of a staff of investigators for the purpose of carrying out the economic survey of the villages of India. In addition to economic survey, there is need also for carrying out a proper soil survey and of a hydrographic survey of the country. The prosperity of our agriculture depends on it. It is a difficult task, but we shall have to face it. It took six months for Poland to carry out the comprehensive inquiry referred to above. In India, we have already a wealth of information at our disposal in the reports of the various Committees and Commissions of Enquiry which are at present, to all appearances, lying idle on the dusty shelves of the Secretariat. Even if the inquiry takes two years to complete, the time will have been well utilised.

§ 6

A FEW PRACTICAL CONSIDERATIONS.

This discussion of economic plans and planning will be incomplete without a warning. There is a danger that a planned economy may soon be converted into a craze and an elaborate hoax of the twentieth century economic practice. The limitations must be recognized. If the co-operation of business and commercial interests is to be secured, they must have to be convinced that such co-operation is worth their while; and when once they are convinced of the utility of a planned economy in the economic chaos and confusion that besets us, they will have to pay the price for it. For it is idle to deny that a rational economic order will be rational so far as the small body—the Economic Council—choose to make it rational. Our confidence in the honesty and integrity of this body must have to be unbounded because a planned economy must necessarily involve severe regimentation, even to the extent of being almost a half-way house to socialism, and we will

have to acquiesce in such regimentation. That is why, as an additional reason, an Economic Council should be a representative body. Our fears, indeed, may be exaggerated. The Council will have to be a statutory body and, as such, subject to the ultimate authority of the legislature where the nation as a whole is represented. But it is essential that the full implications of a planned economy must be understood before the seal of national imprimatur is affixed to it. When once we realize that the old competitive system is no more, the task of acquiescing in planning will be relatively easy,

§ 7

THE ROLE OF GOVERNMENT.

We must further note that when we speak of rationalization, we should not be regarded as advocates either of jingoism or of socialism. Rationalization does not mean nationalization in the technical sense. The modern State is, in a large degree, socialistic without calling itself so. Again, in our industrial organization and the importance that the State attaches to them, we have made large concessions to the socialistic school of thought. It is the real content of what we urge that matters. We want rationalization, a policy of economic organization that would lead to a co-ordination of efforts and elimination of waste. There may be different forms of rationalization, and nationalization may, at best, be one of the methods. Indeed, there may be various alternatives to complete nationalization. There have been big railway and industrial mergers, amalgamations, pools and the like. It has not been found necessary for these concerns that the Government should take over control and management. But some sort of Governmental participation is postulated, for the Government is the only seat of control that is expected to be national in its outlook and to protect the interests of consumers. If there is no Governmental participation whatsoever, the field would simply be left open to the anarchy of the incessant conflict of private interests, of lobbying influences, or in the alternative, to the dangers of monopolistic combinations, and in either case the interest of the nation will suffer. But Governmental participation need not mean that the entire management should be taken over for administration by agents appointed by the public authority. On the other hand, the case is overwhelming against an absolute Government management of economic affairs, barring a few special exceptions, for

Government management is often wasteful and extravagant and at the same time singularly unresponsive to new ideas and improvements. In other words, we would envisage the role of the Government *vis-a-vis* the Economic Council to be similar to their role in the Directorate, say, of the Reserve Bank of India. Even then, if a non-official controlling authority of unquestioned impartiality and efficiency could be constituted under a special charter to be defined by the legislature, such an authority should from many points of view be preferable to a purely official body functioning under an inept legislative supervision, not only because of the want of time and necessary equipment of the majority of the legislators but also because the responsibility of a legislator is only a fraction of the whole. The legislature should retain only over-riding powers of control. In particular, no plan accepted by any planning authority, central or provincial, if it involves any expenditure out of public revenues, should take effect unless approved by the appropriate legislature.

As we have already hinted, one of the first steps to rationalization would be to rationalize the Government Departments. The force of the rationalization of Government Departments would produce an impact on other economic activities of the country, which would be induced as a matter partly of necessity, partly of convenience, and partly due to an economy of effort, to conform to the standards of rationalization enforced in the Government Departments. It is not that there is any special merit in the Government setting forth the pattern. A beginning must be made, and experience shows that such beginning can hardly be looked for as of certainty from the private commercial interests in the country. Secondly, as the cynic might say, and he would not be far wrong unfortunately, that it is the Government which need to force a start because it has been the most wasteful of all. The utility of the Government making a start is further evident in this that the Government alone can provide at least the nucleus of an effective co-ordinating authority for regulating at least some of the major economic interests of the community. Its resources are also elastic and can stand the risk of a failure. It is well known that rationalization is yet in the stage of an experiment though the likelihood of such an experiment succeeding is strengthened by numerous experiments in specific directions already undertaken, e.g., control of food supply, co-ordination of transport, marketing boards, exports quota, and the like. The experience to be gained will also be the test

of the validity or otherwise of including in the experiment all the major private economic interests in the country.

§ 8

PLANNING IN THE EXISTING ECONOMIC ORDER.

So far as private economic interests are concerned, we are yet far from the stage when we may expect voluntary co-operation between them and spontaneous co-ordination of their activities,—when agriculture will rationalize itself, when industry will be adjusted to agriculture and when small industry will feed and be fed by big business (as the handloom and the cotton mills), and when the big businesses themselves will represent a co-operative unit on a national basis. All these seem chimerical to-day. Yet we have got associations of cotton millowners, jute mills, sugar mills, insurance companies motion picture societies, etc., outside the framework of the administrative machinery. The establishment of the Reserve Bank of India is designed to secure banking co-ordination as far as it is possible with the direct assistance of the Government of India. In big business, we have hardly anything analogous to a trust or a kartel movement in this country, which, however, is not entirely a matter for regret.* In shipping we have got the Conference lines which have not always worked for public benefit or the benefit of every individual member, but have often worked for that of the comparatively stronger of them, representing a smaller ring within a bigger one. All this shows that we have yet to travel a long way before we are able to secure the conditions in which the co-ordination of at least the major economic interests for public benefit without any interference from the State would become possible ; perhaps, it will never be possible, unless the State steps in.

We have spoken of the major economic interests. We call those interests major which are either in the nature of public utility concerns or operate on a scale that conceals a constant liability to maladjustments or the proper working of which is intimately bound up with the national interest. Such are the credit institutions in the country. The regulation of monopolies is also to be included in this category and so also the organization of production and trade in staples and the improvement of the prices of particular commodities

*There are indeed a few articles like cement, sugar, tea etc., which represent the phenomena of a kartel movement in this country.

or even of the general price level. The point is, if Government control is inevitable, particularly in periods of acute crisis, why wait for the crisis and refuse to take preventive measures beforehand? The common verdict of economists is that crises and all the suffering that they cause are due to maladjustment and loss of confidence. People have also come to accept this maladjustment as an inevitable part of the normal economic order of to-day. That it is an inevitable part of the present economic order is true; that the present economic order is normal and therefore inescapable is not true. In this fact lies the genesis of the idea of economic rationalization. The present order, in short, is not rational. It is not rational to assume any rationalism behind this perpetual instability of modern economic life, behind periodic crises and acute suffering.

Economic rationalization is, thus, something different from the rationalization of industry taken by itself. It does not imply a combination of capitalists and financiers but regulation by the public authority or a competent quasi-public authority of the different major economic interests for public benefit. Its object is to replace wasteful competition by helpful co-operation, and where the competition is inevitable, to rationalize it. It seeks to achieve this object through the fullest utilization of all the economic resources of the nation.

CHAPTER II.

A PLANNED ECONOMY AND THE COMPETITIVE SYSTEM

§ 1

ECONOMIC NATIONALISM.

In the preceding chapter, the question of planning has been discussed on what may be called a national basis. A full fledged national policy will not, however, be possible without reference to its international context. The world today is an inter-dependent economic complex, and since India is now part of the complex, we must make an effort to realise the full implications of planning against the international background.

We are bound to other parts of the world, mainly through our trade with those parts. We should naturally be interested in the question whether, and if so, to what extent, national economic planning contributes a new scheme of international trade by affecting a complete rejection of the old competitive system. To find out an answer to this question, it will be sufficient if we take a bird's eye view of the developments in international economic relations during the years following the Great War of 1914-1918. On the answer to the question will depend the form and extent of the planning of our trade with the other countries of the world. The planning of our trade, in its turn, will affect the future industrial structure of our country.

Nothing could be more natural than the fact that in the conditions of anarchy, chaos and confusion which prevailed in post-War Europe, statesmen and administrators should find the last haven of refuge in the assumption by the state of the control of the entire economic life of the nation, or of such parts of it as would easily lend themselves to such control and yield the expected results. But the planning becomes a meaningless effort if it is not related to

some definite and pre-determined end. In industries, the elimination of all waste has, for example, the object of securing the maximum of efficiency and of bringing down costs to a competitive level. The ultimate objective behind all forms of economic planning seems, for the present, to be a blind and uncritical bias in favour of what, for want of a better phrase, may be described as economic nationalism. In this new economic craze, the interdependence of the world economic order is ignored, and the pendulum of economic policy swings forward to the point at which it is believed that there is a special merit in thinking of the national group as the final and ultimate unit of the national allegiance of both producers and consumers. To provide for economic self sufficiency at any cost seems to be the most popular of party cries at the present moment.

In this estimate of economic nationalism two facts are frequently lost sight of. The first is that the formulation of national economic policies has been in each case a contingent sequel of the post-War crisis and not due to the fact that they have been adopted after a nice balancing of the issues in a calm and rational way. Secondly, these programmes of national economic development are being pursued in the midst of conditions that are wholly artificial. As a permanent characteristic of post-War economics the policy of "each nation for itself" has yet to be justified. To put it in a different way, we have yet to see how far the competitive system of the old which stood the test of a century of economic development so well has in reality broken down.

The two great causes which have impelled the world to adopt the policy of national exclusiveness in economic affairs are unemployment and a dwindling quantum of trade, which are to a certain extent inter-related. The why and wherefore of both we might for the present ignore. The remedy for the first is usually found in the limitation of imports and encouragement of local industries, and that for the second in a stimulation of exports and other measures to capture a part at least of the world's export trade. Ancillary measures relate to the regulation of the capital market, the control of exchange and the manipulation of currency. A policy of cutting down imports and at the same time of stimulating exports becomes patently absurd if every country tries to follow it. To the nation itself, a decrease in the quantity of imports is not likely to be of any benefit unless it is

accompanied by an equivalent increase in domestic production. It is significant that while legislative enactments or executive decrees may lead to a heavy curtailment of imports, it cannot achieve, by itself, the other end, namely, the expansion of domestic production, because the spirit of enterprise is something which cannot directly be induced by the government. Further, in all attempts to limit the imports, undue stress is often laid on the "visible" balance of trade. This would be a totally unsatisfactory standard by which to regulate public policy in many countries—for instance, in countries having large shipping connections or foreign investments. Statistical tables do not consequently give us the whole truth about the effects of economic nationalism in the sphere of trade and commerce though they do give us a measure of its effect when regarded from specific aspects.

There are other and more formidable difficulties in the statistical presentation of the situation. The inflation of currency, the movement of War materials side by side with normal trade blockades and controls, backstage treaties, agreements and unions, financial and industrial cartels cutting across national frontiers—all these combine to complicate the issue. Nor are these operative only during the War; they leave an aftermath no less formidable. In fact, it was the aftermath of the War that brought into prominence the play of the forces of economic nationalism in its most characteristic aspects. Besides the manipulation of currency, tariff barriers designed to restrict, and in not a few cases totally to prohibit, the normal flow of trade were in almost all countries heightened and extended in the period immediately following the War. To tariff walls were added requisitions, controls, priority systems, prohibition of particular imports or exports, price fixations, government monopolies and the like. It was impossible to trace to any single cause any share of the total effect they all combined to produce. But between themselves, they told the story of economic nationalism. In order, however, to assess the moral of that story a brief reference to its course during the last decade and a half may be made.

§ 2

THE CRISIS OF 1920-21

The artificially stimulated production of the War years and the altered course of trade had, it is now well-known, its inevitable

reactions in the crisis of 1920-21. It gave a strong stimulus to the remarkable growth of nationalist economic policies which characterise the period immediately following the War. Protective tariffs had been imposed by Great Britain, France and Italy in the years 1920-21 ; the newer European States had also imposed heavy tariffs to foster their industrial development. A general upward movement of tariffs was clearly visible, particularly marked in relation to manufactured articles and industrial products. Commercial treaties, customs legislation, bilateral agreements were the main features of the international economic situation during the first seven or eight years of the armistice. A special feature of the period was the rapid increase in the production of raw materials compared to the increase in population. The incipient maladjustment between the basic products and manufactures began to be revealed when the constructional boom passed away and the net effects of the remarkable structural changes of industry together with the technical and mechanical progress of the period began to be felt. There had simultaneously been great changes in the direction and nature of consumption leading to a phenomenal increase in the standard of living which could only be satisfied by economic organisation of an elaborate character. This enables us to realise the significance and importance of the system of public control and regulations not only over a large area of the industrial field but also over a large part of the financial mechanism of each of the countries concerned.

In the pre-War period, the mechanism of adjustment worked smoothly through various devices, such as the manipulation of the short-term interest rates, regulation of foreign investments etc., all of which of course, assumed for their success a certain elasticity of the economic structure. Some idea of the altered situation as it prevailed after the War might be obtained from the huge amount of provision that had to be made to meet the debt services (including the transfer problem) together with the considerable amount of inelasticity introduced in the national expenditure by commitments in respect of social services, and also from the shift of investment from industrial shares or equities to fixed interest bearing securities. On top of all these, came the various fiscal measures adopted to "protect" national industries from foreign "competition". It would take me far beyond the limits of the present chapter if I were to analyse each of the features of the situation in detail. The net

result, however, of all these forces was the creation of an all-round wall of obstruction to those automatic adjustments of trade and commerce that had marked the competitive system. The financial mechanism was out of gear; production of basic industries had outstripped the requirements of industrial consumption; international trade had dwindled; and the currency standard had collapsed under the weight of financial land-slides that followed unusual capital movements quite out of proportion to what the trade could bear.

The upward movement of tariff seems to have been checked, at last temporarily, by the middle, of 1927. The crisis of 1920-21 appears to have completely exhausted itself by 1924-25, monetary conditions were somewhat stabilised and the question of consolidating the tariff was seriously debated. The *modus operandi* of the forces of economic nationalism had not obviously impressed those who had been guiding the economic destinies of the nations. The electorates were clearly restive and more than one Government trembled on the precipice of high economic policy.

§ 3

THE GREAT DEPRESSION.

The real issues could not, however, yet be viewed free from the cloudy atmosphere of national hatred and jealousy and of the political controversies of the time. The transient nature of the apparent economic poise obtained about the year 1927 was further revealed with the onset of the era of agricultural protectionism. It practically presaged the Great Depression which overtook the world in the spring of 1931. The depression deepened, not entirely due to fortuitous circumstances, in the agricultural and the raw material producing countries. The impending crisis appeared in an emphatic form in Central and Eastern Europe. With trade outlets closed and heavy financial obligations to meet, and with migration restricted, they were used, in addition, as the dumping ground of overseas exporters. It is stated that it was Germany which by the Tariff Law of 1925 re-imposing higher duties on food imports started the movement for agricultural protectionism. That might be the case, but the relapse to the fever of protectionism was common to almost all the countries. It was of a hectic and capricious character. Import duties on food and raw materials constituted one of the methods. These were in some countries supplemented by drastic

administrative measures, e.g. state controls or monopolies as in Norway, Sweden, Czechoslovakia and Switzerland; export bounties as in South Africa and Roumania; encouragement of the export of cereals by the issue of "bonds" to exporters of grain as in Germany, Poland, France, Austria and Czechoslovakia; tax on flour consumption as in Hungary, besides milling regulations, quotas, import licenses, and the like.

Secondly, during the period preceding, there had been large capital movements which carried their own inherent financial instability. The increasing inability of trade to meet the liabilities created by the large scale lending and borrowing operations for reconstruction and other purposes was becoming more pronounced. The stoppage of long-term foreign investment since 1929-30 was both a symptom and a cause, precipitating the critical situation which finally forced the world off gold. The alternatives to paying back old debts by incurring new ones was to bring about an active export balance, but this expedient, the normal one in a competitive system, was no longer available. Even if the world trade could be maintained at the 1927 level, the decline in the price level alone would have rendered the question of the balancing of the international financial obligations a particularly difficult affair. As it was, the volume of trade declined heavily. During the three depression years 1930-32, the quantum of trade fell by 27 per cent compared to 1929. The decline was even more marked in the year 1933. The industrial production of the world also declined during 1929-32 by 30.6 per cent. During these years, the extent of the budget deficits of the borrowing countries, after allowing for the proceeds of loans and utilisation of balances, provides the aptest commentary on the entire situation. With all the avenues of international settlements closed, the situation was absolutely desperate.

It is in this background, a background presented by a set of wholly abnormal circumstances, that the rise of economic nationalism is to be studied. The point of our inquiry is, do these new-fangled ideas of economic nationalism represent a permanent breakway from the old competitive order, or merely a set of arrangements for securing a transition to a new economic system? Those who have taken upon themselves the responsibility of planning the economic activities of the nation on a rational basis shall have to think out an answer to this question before they seek to impose

a system of controls and interferences with the normal channels of economic activity. There are certain indications which point to a return of the world's faith in the doctrines of *laissez faire*. The efforts of 1933-34 have been definitely in the direction of an amelioration of the present hardships of trade and commerce. It is realised that competition in tariffs and other forms of trade restrictions does not improve upon, but in many respects is worse than, the competitive system which it seeks to replace. A system of tariffs, quotas and restrictions cannot but maintain the economic system as a whole on a margin of living. Such a system, though perhaps inescapable in the present circumstances, can hardly satisfy the ultimate requirements of a progressive community.

§ 4

RATIONALIZATION OF COMPETITION.

Certain tendencies may usefully be studied as indicating the direction in which world economy is moving. If I may be allowed to anticipate the results of such a study and state my view in a single sentence I would say that the world is moving towards a rational conception of the competitive system, to which all planning of today must necessarily have to be adjusted. Thus if there is no free trade to-day, there are, at any rate, ever widening areas of freer-trade. The Inter-imperial Economic Conference which was held at Ottawa in July, 1932, was a typical effort of this kind. It is significant that the policy of free trade within the Empire did not commend itself to the Dominions, but the Conference, none the less, resulted in a lightening of the incidence of restrictive tariff within the Commonwealth. France is also at the present moment promoting a Conference of this kind. Regional trade agreements and customs unions might be found to be particularly advantageous to those countries whose trade with each other accounts for almost the whole of their international trade. Trade treaties, however, are very difficult to negotiate not only because of the incompleteness of such bargains and the slowness with which they become effective but also because of the triangular nature of most of our trade. *B* may be the cheapest market for *A* for the export of cotton goods, but *C* may be the cheapest market for her (*A*) to import raw cotton from. A bargain between *A* and *B* or *A* and *C* would, therefore, be incomplete and disadvantageous to one of the parties in any case.

if the subject matter of the bargain were raw cotton and cotton goods. Suitable regions which would be amenable to agreement and at the same time economically self-sufficient, being complementary to each other, are hard to discover. Even the British Commonwealth of Nations which satisfies these two tests as proximately as any single region can has only been able through Ottawa to secure more a diversion of trade than any net expansion. There is, further, always the threat of retaliation by countries which lose their export trade through such agreements by shutting down its own market to the export trade of the offending countries or by bringing about a state of cut-throat competition in the neutral markets. The only advantage secured by such agreements is that they give the parties concerned, through a stabilised market, a greater bargaining power with other countries. This bargaining power has been availed of by many countries. England not excepted.

What is true of trade and commerce is true also of finance. The future of the monetary standard is yet a stake in the chess-board of international finance. But the very interdependence of the financial mechanism of the modern world will sooner or later make for an international agreement. The "Sterlingaria" may fitly be a preface to such endeavour in the future. In fact, it goes without saying that an international monetary agreement must be a prelude to the restoration of healthy competitive conditions in trade and commerce rather than a sequel.

This gives us a picture, albeit in its rough outline, of what I have described as the tendency towards re-introducing the principle of competition in a more rational form than the form in which it inspired our economic activities in the past. All the circumstances prevailing now suggest that the competitive system of the future will be tempered and determined by the needs of co-operation. In the older competitive system, the satisfaction of mutual needs and desires was achieved through a process of trial and error, often at considerable loss and sacrifice. In the economic system of the future, this process would be reduced to a minimum through a co-ordination of efforts. Here there would be need for planning. Such planning would be national in the sense that the resources of each nation would be brought most completely to bear upon the common welfare of the world as a whole; it would be international in the sense that instead of there being wasteful competition between

nation and nation, there would be a co-ordination of the productive and distributive machineries of the world, as for instance, by promoting a system of complementary production. The working of regional agreements and trade treaties and the co-operation of Central Banks securing an international co-ordination of credit, currency and investments will have provided sufficient experience to define the nature of future co-operation and lay down its terms and conditions.

The conclusions of this chapter may now be summarized. It has been my endeavour to show that the competitive system has broken down under the stress of very abnormal circumstances prevailing in post-War Europe, that the trend of recent economic developments indicates that the breakdown is likely to be a temporary phenomenon, to be restored as soon as the existing artificial conditions of trade and commerce return to their normal position. A system of planning, consequently, that seeks its inspiration from, and exhausts itself completely in, the present conditions of trade, commerce and finance has no future. Economic policy tends in the direction of freer trade if not free trade, of which the main *motif* will be provided by international agreement as the means of securing the co-ordination of productive and consuming power. Economic planning must thus be related to its international bearings. The future economic policy will take the form of discouraging the less and encouraging the more efficient forms of production in each country. Thus will competition be raised to a more rational and therefore less wasteful plane.

CHAPTER III

PLANNING IN INDIA

§ 1

WANT OF POLICY.

In the first chapter, certain general considerations bearing on the question of planning have been discussed. In this chapter, the special need for a planned economy for India will be explained and the question of a central planning authority determined. The general discussion of the previous chapter has, it is hoped, helped to make it clear that in the context of the present world economic situation, it will not be possible for India to escape some sort of planning. As to what form this planning will take depends upon the particular circumstances of this country. It has already been indicated that there is no "set" plan to which every country must conform and that, secondly, piecemeal planning may not only fail to secure public benefit on an adequate scale but by creating vested interests defeat the very purposes of planning. Hence we must start with a comprehensive plan on an all-India basis, one of whose tasks would be to co-ordinate specific plans in relation to specific categories of economic activities such as agriculture, rural development, industry, transport, taxation and tariffs, banking and currency, national expenditure, etc. Specific plans intended to cover these activities will be discussed in subsequent chapters. Here, we are mainly concerned with the constitution and functions of the central planning authority and with the examination of circumstances in the midst of which it will have to work.

The economic situation in India presents certain characteristics which point to the urgent need for planning. They are summarized below to indicate the strength of the case for a planned

economy for this country. There is no doubt that all the world shares the chaos of economic conditions prevailing as the result of acute maladjustment and depression, but it is doubtful whether it has been so pronounced productive of so much confusion in any other country as it has been in India.

(a) Reliable statistics relating to production and consumption, price level, cost of living, etc. are not available. The only reliable figures in this regard are the figures of export and import and those relating to certain organized industries.

(b) There is much overlapping of functions. The Intelligence Departments of the Government including Research are not properly co-ordinated. To some extent, the holding of periodical consultations through Conferences removes this defect but the talks are often desultory and there is no continuity. The cost is paid twice or thrice over by the taxpayer for the same kind of enquiry or investigation. At the same time it must be admitted that the method of appointing *ad hoc* enquiry committees for many difficult investigations with the help of a majority of non-official members is a piece of economy. A large part of this economy is, however, illusory because many of the committees have covered identical grounds, and the reports of most of them, some very valuable, lie in vain covered with the dust of years on Government shelves.

(c) Two of the most characteristic directions in which the evil effects of the want of a definite policy have specially made themselves felt are banking and transport. The system of banking prevailing in India is one of the most chaotic ever seen in any country of the world. A foreign system has been superimposed upon the indigenous without any attempt at co-ordination. Till recently there was no Central Bank, no points of contact between the centres of high finance and rural finance excepting the meagre field covered by the co-operative credit societies, while the Exchange Banks are *sui generis*; the indigenous bankers follow methods which are primitive both in conception and execution. As for transport, too much attention has been paid to developing only one kind of transport under State patronage and State expense while other forms like river transport have been allowed to languish or like motor transport to fight an unequal battle with State subsidised

transport. Railways have developed in one direction covering mainly the big cities with the ports, chiefly with the object of stimulating the foreign trade of the country. Inland trade which by far accounts for the largest volume of India's trade still suffers under the handicap of a slow, and therefore costly, form of transport.

(d) There is absolutely no liaison between the manufacturing industries and the rural industries. In the craze for industrialism, the important role which cottage industries of India have to play is forgotten and this reacts on economic welfare most unfavourably. An unhealthy hiatus separates the rural areas from the towns; and the middlemen flourishes as an exploiter.

(e) The Budgets of the country, both Central and Provincial, are in many ways a defiance of all the sound canons of taxation and public finance. The Central Government spend about three fourths of their income on unproductive services and this comes up to about a third of the total revenues of the country, Central and Provincial. The civil servants in the pay of the Government enjoy a status and emoluments wholly out of proportion to the scale and standard which the general poverty of this country can maintain. The Defence Budget alone is equal to the total expenditure of the country, Central and Provincial, on social services.

(f) Practically all the key industries of India, with the only notable exception perhaps, of iron and steel, are under the domination of non-national interests. All the principal ports are under the control of non-Indian interests. Those who understand the great influence which the sea-ports wield on the development of foreign commerce and on the stimulation of the carrying trade will easily appreciate the harm that is being done to the industrial economy of India by leaving the ports of this country to the control of foreign vested interests.

(g) Lastly, there is the supreme question of the *point of view* in the formation of economic policy. Neither the Government of India nor the Provincial Governments have at their elbow any real machinery of expert consultation, apart from the legislatures, which could represent to them the requirements and the needs of the nation. The Central Legislature is still a glorified debating assembly. Even under the federal scheme, it would be difficult to ensure the expression of the national point of view. On many issues of vital

importance the Government have the power to over-ride the definitely expressed opinion of the majority of the public. The result is that on almost all points, the point of view of the Indian public is not recognised and that those problems which affect them intimately receive but a perfunctory consideration.

§ 2

INCOMPLETENESS OF RECENT EFFORTS.

Anyone who would ponder over these defects would be satisfied that a *prima facie* case exists for the national planning of our economic life. It would, however, be wrong to say that India has been standing absolutely still. In fact, she has already a good deal of planning to her credit, and what is more, she has already discarded the ideology of the protagonists of economic freedom in a good many directions. It will be obvious by now to all that even the Government of India, as much as the Provincial Governments, stand definitely committed to a policy of consciously and deliberately directing the economic activities of the people with a view to removing some of the defects and deficiencies mentioned above and otherwise achieving a measure of co-ordination in particular categories of economic activity such as rural economic survey, transport and communications, banking and trade. But piecemeal planning and the setting up of a number of specific but unrelated advisory organizations are not adequate enough for the purpose that is to be kept in view, namely, that there must be a comprehensive plan which will include all the categories of our economic activity with a view to securing the maximum of advantage with the minimum of waste. The Government in our country have so far failed to realize the inadequacy and ineffectiveness of a partial and haphazard effort. Thus the plan of rural economic recovery announced by the Government of India a few years back, and since suspended, enumerated some of the major problems of India's economic life but did not go beyond the appointment of certain officers for specific purposes and the creation of certain Government departments and bureaux for dealing with specific problems. Even now the Governor-General-in-Council remains as he has been, the co-ordinating authority helped and assisted by an economic sub-committee of the Executive Council. The sub-committee is, in fact, the entire Cabinet barring one or two members. In the Provinces, again, prior to the introduction

of Provincial Autonomy, Rural Development Commissioners had been appointed in many of the provinces, economic inquiries had been initiated, and there had evolved a general interest in the idea of planning ahead a programme of development. The degree of enterprise varied from province to province, the Punjab being not only the foremost in point of time but also in the extent of its enterprise. The problems also differed.

So far, however, as the constitution of a central planning authority and the methods of planning are concerned, we have hardly travelled farther than the traditional track of the Government, excepting for the fact that instead of members of the Government pursuing their own five year plans there is to be in the future greater consultation among the members *inter se* and a greater co-ordination of work done by them and their successors. This, no doubt, was meant to be a safe and cautious advance on the then existing position within the four corners of the Government of India Act of 1919. Till popularly elected Ministers assume office at the centre under the new Constitution, the position would remain substantially the same. In some of the provinces, however, Boards of Economic Enquiry have been set up and the necessity of non-official co-operation has been given authoritative institutional expression. That, no doubt, is an important advance.

§ 3

AREA OF PLANNING.

We have been discussing the question of a central planning authority. There is one form of piecemeal planning which seems to have support in many quarters. It is regional planning—each province, for instance, having its separate and independent Plan. There is, no doubt, that a Provincial Plan with less ambitious aims has a greater chance of being in consonance with the resources of the Government than an all-India Plan comprehending the entire economic life of the nation. The view all along taken in these pages is that India wants an Economic Plan on a country-wide scale. But such a Plan will naturally have to be supplemented by its provincial counterparts in the provincial spheres. As regards the relative merits of an all-India Plan *vis-a-vis* purely Provincial Plans, the possibilities of the two run along different lines. On the one

hand, the Government of India have greater opportunities and resources of framing and implementing a plan of economic recovery because of the all-India character of most of the measures that would come under the scope of the Plan and because of the interdependence of the Provinces in economic improvement, and of the undoubted financial powers, advantages and resources that the Central Government enjoy and can commandeer. On the other hand, the Provincial Governments are now based on the principle of constitutional responsibility to the legislature and the developmental services are under their exclusive control. So they have got to be more appreciative of public needs and requirements and move with the times. In any case, a lead from the Central Government is expected and desirable, a lead which will give the necessary leaven to the efforts of the Provincial Governments.

It is however obvious that from the point of view of a national economic policy, an all-India Plan with a central planning authority would be more useful and appropriate than provincial programmes. The more important aspects of our economic life such as the co-ordination of industrial development, banking and currency, tariffs, transport, financial policy and the like—are under the control or direction of the Central Government. So also are those activities which would assume primary importance in a scheme of planned economy such as agricultural and industrial research, collection of statistics, crop planning, hydrographic surveys, etc. There are others, again, which, either on the question of cost or because their advantages will be incident over a large area transcending the boundaries of a single Province, will be beyond the power of any single provincial authority to implement, such as the cost of a comprehensive programme of communications or in certain specific cases the construction of hydro-electric works for the purposes of irrigation or for the supply of industrial energy. To some extent the grant of borrowing powers to the Provinces under the new Act will make it possible for the Provinces to undertake costly projects of development, and some of the Provinces have already taken advantage of these powers in initiating ambitious schemes of development, but it is evident that as the resources of the Provinces are none too ample and as these loans must be adequately serviced, the borrowing powers must be carefully and cautiously used. The grant of these powers does not,

however, affect our main argument. If anything, it makes the necessity of co-ordination and planning all the more insistent and urgent. Finally, if there are to be regional plans, and there must have to be such plans, adapted to local needs, a co-ordinating authority will still be necessary to plan these plans so that regional overlapping and inter-provincial conflicts might be avoided. Hence the formation of an all-India Plan and creation of suitable instruments for carrying it out at the Centre and in the Provinces are to be regarded as indispensable for a planned economy for India.

§ 4

THE CONSTITUTIONAL DIFFICULTY.

One particular difficulty in the way of setting up the central planning authority, and a chain of provincial authorities linked to it, that may be anticipated is the constitutional difficulty, already referred to in the first chapter. A little glance at the provisions of the Government of India Act of 1935 may prove that the fears are perhaps, exaggerated. Thus, section 135 of the Act provides for the establishment of an "Inter-Provincial Council" charged with the duty, among others, of "investigating and discussing subjects in which some or all of the Provinces, or the Federation and one or more of the Provinces, have a common interest, or making recommendations upon any such subject, and in particular, recommendations for the better co-ordination of policy and action with respect to that subject," and if His Majesty is satisfied that "public interests" would be served by the establishment of such a body, it shall be lawful for him to establish it by an Order-in-Council. The devolution of functions of the executive authority whether of the Federation or of the Provinces to subordinate authorities, is, under section 7 (1) and 49 (1) of the Act of 1935 also within the competence of the respective legislatures. Section 103 of the Act empowers the Legislatures of two or more Provinces to adopt resolutions requesting the Federal Legislature to pass an Act "regulating" any of the matters enumerated in the Provincial Legislative List. On the other hand, under section 124 (2), "An Act of the Federal Legislature may, notwithstanding that it relates to a matter with respect to which a Provincial Legislature has no power to make laws, confer powers and

impose duties upon a Province or officers and authorities thereof." The validity of making grants for such purposes whether from the Centre to the Provinces or *vice versa* is protected by section 150 (2). In regard to railways, which must undoubtedly play an important role in planning, despite the creation of the Railway Authority on a statutory basis, the constitution provides [section 183 (2)] that in the discharge of its functions, "the Authority shall be guided by such instructions on questions of policy as may be given to them by the Federal Government." As regards industrial development, a specific item—"34. Development of Industries where development under Federal control is declared by Federal law to be expedient in the public interest" is included in the Federal legislative list. From all these it would be apparent that the new Government of India Act would not stand in the way of giving appropriate powers and contributing necessary resources to the Economic Council, if and when it is established. In so far it has an organ constituted under section 135 of the Act, namely, on an inter-Provincial basis, we need anticipate absolutely no constitutional difficulty. Even if there were any constitutional difficulties, nothing need prevent the Government from making it a convention, subject to their own responsibilities and such modifications as may be required for administrative reasons, to adopt the findings of this expert and representative body in the same manner, for instance, as the Government now adopt the findings of the Tariff Boards. This would, of course, presuppose a radical change in the point of view of the Government.

§ 5

OTHER DIFFICULTIES

The spirit of hesitation and caution that we at present find in the formulation of a national economic policy is, however, not unexpected. In the first place, a foreign government has by the very nature of things got to be conservative in its policy and outlook; it cannot afford to take risks in the same way that a National Government may. Secondly, the large size of the country and the conflict of vested interests, both between Indians and non-Indians and between Indians and Indians, even between Province and Province (as in the case of Burma and the rest of India) make the adoption

of a Plan on a national basis an exceedingly difficult affair. Thirdly, there are other limitations to a scheme of national planning. I have already urged that a system of national planning embodying the principle of national isolation from the rest of the world economy will be contrary to the outstanding tendencies of world trade, commerce and finance that can be discerned even in the midst of the chaotic conditions of to-day. Our finances depend to a considerable extent on the nature of our foreign trade and the extent of our foreign commitments. Naturally, a Plan which excludes altogether this aspect of the question is bound sooner or later to come to grief. Finally, we have to consider the effects of planning on the budgetary position of the Government. We might here note two facts. In the first place, a wide adoption of a policy of discriminatory protection has already affected the customs revenues which have so far been the most profitable source to tap by a needy Finance Member. The prospect ahead suggests that the protective policy will be extended rather than restricted, although such a policy will be limited by the requirements of the planning of our trade and commerce. In the initial stages, the augmentation of the national income due to the adoption of the protectionist policy is not likely to be such as would compensate the loss in customs revenues, either through excise duties or through other taxes. Besides, excise duties are not very popular in our country, and that brings us to the second consideration which I would like to urge. In fact, this point has been ably brought out by Dr. H. L. Dey in his work on *The Indian Tariff Problem*. It refers to the preponderance of indirect taxation over the direct taxes in the Indian tariff system. Of the indirect taxes, again, by far the largest proportion is taken up by the taxes on the poor men's necessities. That is also the case with the few excise duties that have recently been imposed—though at least in one case the duty seems to be justified, I mean, the excise on sugar. An economic Plan, which depends so much on finance will have to take all these difficulties into consideration. Since these difficulties are likely to affect the Government first and most, it is quite natural that they should adopt an attitude of caution and hesitation.

The case of the economist who would urge planning in the face of all these difficulties is, fortunately, clear. The economic depression found the Government grappling exactly with those

difficulties they would fain avoid. The customs revenues till recently had dwindled to a third of their normal yield. The balance of trade in merchandise is still in a most precarious state,—only a fortuitous circumstance—the gold exports—having helped the Government for a number of years to meet their obligations and maintain the exchange. The direct taxes have already been put up—and successive Finance Members have already been seeking out fresh fields and pastures new. There is already a talk of revision of the entire taxation policy. The Viceroy's Cabinet has already resolved itself into a miniature Economic Council. A Transport Advisory Council has been inaugurated. The Reserve Bank for the control and co-ordination of credit and currency has been set up. Steps have been taken to co-ordinate agricultural and industrial research. Rural Development Work has been given a forward impetus. A marketing organization has been created at the centre. Trade conventions have been concluded with different countries and others are under contemplation. The railway rates policy is due for revision. All these stand, consciously or unconsciously, as so many preliminaries to the evolution of an Economic Plan with a view to achieving a well ordered scheme of economic development. Only, there is still a suggestion of slipshod thinking in regard to these activities. The activities themselves are not properly adjusted to reach other and they do not form part of a pre-conceived comprehensive plan of all round economic development. And what is most important to note is that a *national* guidance is lacking at the crossroads—where the path is traversed by a conflict of economic interests. The most apposite instance of what I mean is presented by the demand of India for the development of her shipping, and also by the question of the rail *vs* the road.

CHAPTER IV

PLANNING THE PLAN

§ 1

THE BACKGROUND.

We now turn to the structure of the plan itself. It is obvious that we shall have to relate it to the existing experience on the subject of planning, with special reference, of course, to Indian conditions. In the preceding few chapters, certain relevant conclusions have been arrived at. It would be desirable to recapitulate these as setting forth the background in which the structure of the Indian plan must be set.

A. Scope of the Indian Plan.

1. The Plan must be comprehensive. That is to say, the entire economic life of the country must be treated as a whole. The reason is that it is not possible to cut up the economic life of a country into independent water-tight compartments.

2. It must be national. That is to say, the Plan should have an all-India basis. This does not mean that there should not be provincial plans, but that these plans should fit into the composite mosaic of an all-India plan. A provincial plan by itself would be imperfect and inadequate for the purpose of economic planning.

3. Advantage may be taken of certain sections of the Government of India Act to set up one or more planning authorities with the necessary delegation of powers to these, including in matters of inter-provincial interest.

B. Aim of planning.

1. The object of all planning is to remove all waste through a co-ordination of efforts and to improve the efficiency of production as well as distribution. The aim is the promotion of national welfare.

2. This does not mean nationalization so much as rationalization of our economic activities. It does not mean absolute state control of our economic life. But Government participation in the plan is assumed.

3. Nor is the international aspect to be ignored in the initiation and execution of a national economic policy. The question of our foreign obligations and trade will clearly rule out a policy of national exclusiveness. In fact, a study of post-war economic developments reveals that the world is moving not towards the elimination of all competition but towards the rationalization of competition. A system of complementary production (having due regard to the necessity of establishing key industries and the production of important raw materials and agricultural staples) seems to be the most convenient method of international planning.

C. Form of the Plan.

1. There is no set form of economic planning to which all countries must necessarily conform.

2. There may be two forms of planning. In one case the Government itself may take the entire responsibility of planning. Of this, the Russian plan and the Recovery Administration of President Roosevelt in the U. S. A. are illustrations. Government planning may also be limited to the co-ordination of a number of Government Departments and to inter-departmental co-operation in certain specific matters. In the other case, the planning authority may be institutional instead of Governmental, that is, a quasi-public authority may be set up covering the whole of the economic activities and interests of the country in so far as they may be held to subserve the purposes of the Plan. This is the sort of planning authority which would suit Indian conditions.

3. As regards the powers of the authority, there are, again, two views of the matter. The planning authority may have only advisory functions, or it may be charged with complete executive powers. These powers may be delegated to it by the Legislature in so far as it is consistent with the Government of India Act. In the case of a purely advisory authority, there need not be any difficulty. In the case of a Governmental authority, the exercise of executive functions also need not present any difficulty. There may be a compli-

cation only if a quasi-public authority outside of the executive Government is set up and if it is intended to vest this authority with appropriate executive powers. The difficulty arises particularly because the powers of the planning authority will naturally extend to the Federal, Inter-Provincial (or Concurrent) and Provincial subjects if the Plan is to be a comprehensive one and if it is to be worked on a national basis. It is contended that from the constitutional point of a view, the difficulty is not insuperable. Much depends, however, on the spirit in which the constitution is worked, not on its form.

4. Then there is the question whether the planning authority should be an *expert* body or a *representative* body. Indian opinion favours the representative type. It may of course be possible to effect a reconciliation of the two types in the Indian Plan.

D. Recent Efforts.

1. The Government of India have already committed themselves to a policy of state interference in many important economic matters.

2. Their efforts in the executive sphere have mainly taken the form of inter-departmental co-operation. Where non-official or quasi-public authorities have been set up, they have been invested mainly with advisory functions. Statutory authorities vested with appropriate executive powers are the Federal Railway Authority and the Reserve Bank of India. The recently set up Ministry of Communications is an illustration of Governmental planning of transport co-ordination and regulation, but it is not a comprehensive one. An instance of the advisory type is the Tariff Board.

3. Provincial Governments have also been making an effort to plan some of their activities. Development Departments have been established in most of the provinces and rural improvement work has been seriously taken in hand. But the efforts are much too limited in scope and more or less desultory in character.

These then, provide the background, the context, for an economic plan for India. The conclusions set forth above provide the starting point of our efforts. We now proceed to discover to what extent this background—the conclusions—can be adapted in the case of India.

§ 2

ITS ADAPTATION TO THE INDIAN CASE.

The best way to envisage the plan would be to split it up into a number of categories which, though related to each other, would represent more or less clear-cut divisions of the subject matter to be planned. It will be convenient if we follow in the first instance the divisions of subjects given in Schedule VII of the Government of India Act of 1935. Three lists are given in that Schedule, namely, the Federal List, the Provincial List, and the Concurrent List. The authorities in charge of these lists are territorial in character. Since the working of the Plan will inevitably involve the question of jurisdiction it would be helpful if the actual execution of the Plan is left to the relevant authorities according as the subjects come under the Federal, Provincial or Concurrent jurisdiction. The Plan itself must be formulated by a central authority in order to secure co-ordination and to avoid overlapping of functions and waste. The Plan, it has already been emphasised, must be comprehensive in its scope and national in its outlook. The central authority, it is needless to add, should be competent to exercise the powers of supervision, direction and control over the provincial authorities and such other specific authorities as might be set up for the due fulfilment of the purposes of the plan. It should also be empowered to utilize the agency of the Provincial Governments for the same reason. It has already been contended in the preceding chapter that in spite of the autonomy of the Provincial Governments, the Government of India Act does not stand in the way either of the setting up of such planning authorities or the delegation of executive functions to such authorities where necessary. If necessary the executive functions may be discharged through appropriate Government Departments.

Apart from the purely legalistic view of the question, it is evident that the whole conception of economic planning demands for its fulfilment a country-wide recognition of its urgency and importance and the will to work it. If the spirit—the will to do it and to co-operate in the doing of it—is lacking, not even an Act of Parliament will avail us; if on the contrary, the spirit is there, it will fulfil itself in spite of the law. Why should it be impossible for a central planning authority to command the spontaneous allegiance of the Provincial Governments, if the Congress Working Committee

has found it possible to direct the Ministries of seven autonomous Provinces to fall in line with the policy and programme adopted by the Congress High Command? If the Working Committee is conducting the fight for the emancipation of the country on the political front, the central planning authority would be directing the same fight on the economic front, with this difference that the idea of the "fight" on the economic front does not imply a negative creed, as a purely political fight seems to embody, but a vast and vigorous programme of national reconstruction. The real sanction in either case will be provided by public opinion. Only, the central planning authority and its provincial counterparts, must deserve it. It *will have to* deserve it for the public opinion is already there.

Apart from the territorial divisions, a second set of categories arises from the nature of the Plan itself. It has already been indicated that the Plan must embrace the whole of the economic life of the country. It should include not only the development and improvement of industries but of all the categories of our economic activity. Agriculture, village re-organisation, unemployment, transport and communications, banking and finance, trade and commerce, fiscal policy, national expenditure—all these must come within the scope of the Plan. It is necessary to add that for the better working of the Plan, each of these categories should be handed over to the charge of a distinct authority. Like the central planning authority, these authorities should have, where necessary their provincial counterparts. But they will not be independent or even adjunct to the parent bodies. They will be like so many sub-committees of the parent bodies. In other words, the membership of these specific authorities will be drawn from the personnel of the central or the provincial planning authorities, as the case may be, apart from the experts or specialists who may be invited to join as co-opted members by reason of their special attainments or experience.

As regards the principle to be followed in the composition of these bodies, it is evident that we shall have to make a compromise between the principle of representation and the necessity of securing expert knowledge. Much of the work that the planning authorities will be called upon to do will entail expert or technical knowledge and experience. Such knowledge and experience must be enlisted in the great task. We have of course referred to Sir Arthur Salter's

statement that the great body of opinion in this country prefers the representative model. The reason why the representative body is preferred and Government nominated experts looked down upon is that, as matters stand now, only a representative body is supposed to represent the national interest. But there is no bias against the experts as such. No doubt, in the composition of the various planning authorities, the public demand for a representative body must be adequately recognised. As regards the experts, it would not be difficult to carry the support of the public if in the selection of the experts, men of independence of judgment who could be trusted not to betray the national interest are appointed, preference being always given to qualified Indians in the first instance. In fact the public prejudice against experts is bound to disappear, particularly when it is known that the authority nominating them enjoys the confidence of the people.

Now, so far as the question of representation is concerned, it must follow the federal principle of double representation: representation of the people and representation of the constituent elements. This can be secured by finding room on the central planning authority for representatives of the country on an all-India basis, the central legislature sending a certain quota for the purpose, and for a certain number of representatives of the provinces. The Government also should participate in the composition of the authority. Similarly, the provincial planning authorities should consist of representatives of the province as a whole, the provincial legislature sending in their quota, and of a certain number of representatives of the central authority. The members of those planning authorities which would be in charge of specific spheres of economic policy or activity should be *ex-officio* members of the central or the provincial planning authorities as the case may be, or to be more accurate, the central and the provincial planning authorities should set up from among their own members separate Boards or Councils to deal with specific spheres of economic policy or programme, such as relating to agriculture, industries, transport, rural development, tariff policy etc. The technical experts or specialists should come in only in an advisory capacity.

Two more questions remain to be discussed in connection with the composition of the planning authorities. The first is that if

the above proposals are accepted, the central planning authority would be a body too unwieldy for quick decisions and constant supervision so that it might be necessary to set up a smaller body within it for the purposes of speedy, effective and continuous control and supervision of the working of the plan. It would be something like the Working Committee of the Congress. It might be called the "Council of Action" and might conveniently be composed of the President of the Central Planning Authority as chairman, and the chairmen of the provincial authorities as well as of the authorities set up at the centre to deal with specific problems, as members. Needless to add, this small body would sit as frequently as necessary and might take the help of experts or specialists whenever the due discussion of a difficult problem might require it. Its powers might, if necessary, and with the due approval of the authority, be delegated to one or more members as required.

The second question is that of establishing a Bureau of Survey and Statistics. Its functions should include the organisation of surveys and the preparation of commercial and industrial maps and the editing of statistics and other economic intelligence, and the co-ordination of research. The Bureau should naturally work in close collaboration with the relevant Government Departments; and there should be its provincial counterparts.

Lastly, there remains the question of dealing with matters of interprovincial interest. An Inter-Provincial Council as contemplated under Section 135 of the Government of India Act might be set up for the purpose by means of an Order-in-Council. The Council should be charged with the following duties: (1) inquiring into and advising upon disputes which might have arisen between Provinces; (2) investigating and discussing subjects in which some or all of the Provinces or the Federation and one or more of the Provinces, have a common interest; and (3) making recommendations upon any such subject and, in particular, recommendations for the better co-ordination of policy and action with respect to these subjects.

§ 3

THE FOREGROUND.

Thus in the foreground of the canvas, charged with the duty of translating India's National Economic Plan into practical

reality there will be the following authorities working in close co-operation with each other. Let us call the central planning authority by the name of the National Economic Council, provincial authorities by the name of Provincial Economic Councils, and the specific organizations by the name of Boards.

(1) First comes the National Economic Council. The Council as suggested, should be composed of the following categories of members: (i) members representing the Legislature (ii) members representing the Provincial Economic Councils (iii) the Federal Ministers (iv) members representing the Federation of Indian Chambers of Commerce and Industry (v) Experts in Agriculture, Dairy, Forests, Minerology and Irrigation, River Physics, Transport and Communications, Banking, Fiscal Policy and Rural Work (vi) Finance Ministers of all the Provinces (vii) Ministers of Agriculture and Industries of all the Provinces, and (viii) Economic Experts.

(2) The Council of Action of the National Economic Council, of which the composition has already been suggested.

(3) Bureau of Survey, Statistics, and Research. The Bureau should be composed only of trained experts and scholars.

(4) Boards. There should be separate Boards, one each for dealing with the major economic problems of the country. The following may be suggested: Improvement of Agriculture, Industrial Development, Irrigation and Power, Village Reorganization, Transport Rationalization, Banking Reform, Tariff Reform and Unemployment and Labour. These Boards which would be composed of the members elected by the National Economic Council and experts with special knowledge of the problem to be discussed should have to work in collaboration with each other and with the relevant Ministries of the Government.

(5) The Provincial Economic Council. The Council should be composed of the following categories of members: (i) members representing the Provincial Legislature (ii) members representing the National Economic Council. (iii) members representing the Provincial Chambers of Commerce (iv) Experts (v) Ministers, of Finance, Agriculture, Industries, Labour and Education (vi) members with special knowledge of economics.

(6) Provincial Bureau of Statistics and Research, consisting only of trained experts and scholars.

(7) Provincial Boards. The Provincial Boards will naturally deal with subjects only of provincial interest.

(8) The Inter-Provincial Council. This Council, as provided by the Government of India Act, is to be established by His Majesty-in-Council "upon consideration of representations addressed to him by the Governor-General that the public interest would be served" by its establishment. The scheme presented here makes the Council a part of the planning machinery to deal with matters of inter-provincial interest. It should consist of the Chairman of the National Economic Council as President and the Chairmen of the Provincial Councils as members, together with such other members as the Governor-General might from time to time nominate.

It is desirable that the Federal Prime Minister or a public leader of all-India reputation in whom all the communities should have equal confidence should be the President of the National Economic Council. In the case of the Provinces, however, the Premier of the Province might fittingly be the President of the Council, and one or the other of the Ministers might preside over the Provincial Boards.

All decisions of the Councils and the Boards must be by a majority of votes but the executive authority shall in every case vest in the respective Presidents or Chairmen.

§ 4

THE PROCEDURE

The actual procedure to be followed in the setting up of the planning authorities must necessarily assume the co-operation of the public as well as the Government. The following procedure may be suggested.

If legal opinion favours this it is possible to set up the planning authorities armed with the requisite executive powers, as proposed above, within the four corners of the Government of India Act. each of the Provincial Legislatures should ask their respective Governments by means of a resolution under Section 103 of the Government of India Act to move the Federal Government to take powers to regulate all matters in the Provincial Legislative List such as

would come under the scope of planning ; and the National Economic Council might be given the necessary powers for the purpose by means of a Federal Law. In such a case, the National Economic Council (or the Council of Action acting in that behalf) and the Provincial Economic Councils should have full executive powers for implementing the plans adopted by them.

If legal opinion decides against the possibility of establishing such planning authorities within the four corners of the Government of India Act, the Federal Legislature as well as the Provincial Legislatures should adopt identically worded resolutions recommending the establishment of the planning authorities proposed on an advisory basis, it being understood that the recommendations of the appropriate authorities should be implemented as a matter of course by the respective Governments and by the inter-Provincial Council, as the case might be. His Majesty's Government might also be moved to take steps to amend the Government of India Act in order to make the establishment of such executive authorities permissible.

The resolutions to be adopted by the Provincial as well as the Federal Legislatures should recommend the Federal Government to appoint a National Planning Commission to report upon the essentials of a suitable economic plan for India and upon the composition and powers of the different planning authorities to be established for carrying out the plan. The Planning Commission should necessarily act in an advisory capacity, the actual formulation and execution of the plan devolving upon the planning authorities to be set up or the Government as the case may be. The Commission should concern itself with the broad principles and policy that should determine the content and the purpose of the Plan.

When the planning authorities both at the Centre as well as in the Provinces have been constituted, their first task would be to collect the necessary data and information to provide the basis of the Plan. The different Boards should then be asked to submit their individual plans in the preparation of which the utmost consultations should be held with the interests affected or likely to be affected by the Plan. These plans must specify in each case the extent of financial obligations that the carrying out of the Plan would impose, and the legal difficulties, if, any, that might arise in

the course of carrying out the plans. The National Economic Council should also invite the Provincial Economic Councils to submit their respective provincial plans. Before submitting such provincial plans, the Provincial Council should ask their own Provincial Boards to formulate their individual plans, and these together with the provincial plans should be submitted to the National Economic Council. The individual plans prepared by the Provincial Boards should be sent to the Central Boards who must give due consideration to the provincial proposals before formulating their own schemes. These schemes must incorporate the provincial schemes, subject to such modifications as might be decided upon. If necessary, joint consultations should be arranged between the National and the Provincial Boards for the elucidation of any difficulty or for further information. When the National Boards have formulated the plans, these should be submitted to the National Economic Council. The National Economic Council would then address themselves to the formulation of a draft National Plan which must clearly indicate the responsibilities of each Province in the matter of working the National Plan on the basis of the Provincial Plans as modified by the recommendations of the National Boards and the requirements of the National Plan. The opinion of the Provincial authorities as well as the public should be invited on the draft plan after which there should be another sitting of the National Economic Council for the purpose of the final consideration of the Plan. When the Plan is finally adopted, a Special Committee should be appointed to consider the financial burdens devolving on the Federal Government as well as the provincial units. The Plan must specify each of the different stages in which the scheme should have to be completed. The Council of Action should take care to see that the specified schedules are followed.

§ 5

THE MORAL ASPECT.

All this, however, deals with what we may describe as the objective aspects of the business of planning. The demand for a national economic plan must first come from the nation itself. All the economic communities must share in the demand. The demand must be based on the consciousness that the working of a National Plan requires tremendous sacrifices. The national support of the Plan

must be based on the recognition of the object of planning as one which has the support of every community. It must be based on the recognition, further, that the object can not be attained save by the methods proposed.

The sacrifices which planning entails are not necessarily monetary sacrifices. No doubt the cost of planning will be a heavy one. But the burden can perhaps be distributed in accordance with the principle which can have no monetary equivalent. It involves interference with private and vested interests, for a good that is somewhat distant and with which every economic interest may not feel equally identified. Not that there has been so far no interference with private interests. But the scale and extent of interference which the working of a comprehensive national plan assumes is naturally foreign to existing traditions. What is required is an *esprit de corps*. When we realise the present state of anarchy in the economic world and the predominance that private and sinister influences often attain in that world and which often thrive in a state of perpetual maladjustment, to count upon the spontaneous emergence of a team spirit seems absolutely utopian. Naturally, unless the weight of public opinion is strongly cast on the side of those who advocate the initiation and execution of a national economic plan as the only way of rescuing India out of the morass of eternal misery and despondency, it would be futile to talk of planning; which means that public opinion should be mobilised and educated into the necessity of national planning of our economic life. Here comes the role of political leaders. It should be their business to enlist not only the support but the enthusiasm of the people for the cause of planning. The drive of the great political organizations of the country is necessary for the purpose. They should each adopt a complete resolution on the subject in their annual sessions and through the press and the platform popularise the idea. They should influence the Chambers of Commerce and other commercial and industrial organizations to do the same.

If the initiation of the Plan requires the mobilisation of public opinion in the manner indicated above, its working is to an equal, if not greater, extent dependent upon the continued moral support of the people. The success of the Plan will depend upon the moral quality and resources of the nation that it can enlist. We have

already dwelt upon the necessity of the spirit of sacrifice. Other qualities that are required are, honesty, efficiency and discipline. Without these no planned attack on the economic problems of the country is possible. There should be absolute confidence in the honesty and integrity of those who would constitute the planning authorities, and these on their part should be deserving of this confidence in the highest degree. None but those who have had the cleanest record of public service should be called upon to sit on one or the other of the planning committees. They should be selected independently of party labels. When a decision is made by a planning authority, it should be strictly followed, and the nation should be rigorously trained into the art of obedience. That is an essential condition of success. No doubt there might be mistaken decisions, for no man is infallible. but it is better to make a wrong decision for the sake of a great cause and suffer for it than to affect the airs of negative statesmanship, like our proverbial Nandalal, to be always critical, to be always conscious of "difficulties" that cannot be overcome, and to regard the seething humanity of India like so many *flotsam* and *jetsam* caught in the whirlpool of a sure economic annihilation !

CHAPTER V

PLANNING THE PLAN (CONCLUDED)

§ 1

THE QUESTION OF A TIME LIMIT.

Before we pass on to the consideration of the specific problems and proposals for the planning of the diverse categories of our economic life, it may be worth while to tarry a little and consider a few more general questions relating to planning.

The first question is that of a time limit. The Russian Plan has perhaps set the fashion in this respect. There is always an attraction for the definiteness that a time limit seems to suggest. The working of the Plan also becomes more amenable to control and supervision if it is carried out in definite stages according to a time schedule. There is, as it were, a quicker turnover of national energy, and therefore a more effective utilisation of the same, if a definite output is demanded within a given period of time. Finally, if the demand is fulfilled within the given time, the pride and the glamour of achievement becomes in itself the cause of a further impetus to still greater achievement during the next stages of the scheme. It is well known that the Russian Plan was able to command so much national enthusiasm that the actual achievements during the first five years of the Plan exceeded the original expectations by a substantial margin in almost every direction.

While these are certainly arguments in favour of prescribing a definite time limit within which the Plan must be fully worked out, there are arguments which suggest that the prescription of a time limit in the case of India is neither practicable nor desirable. It is only a truism to say that Russia is not India, however much our sympathies may lie with the former in her fight against poverty, exploitation and the general spirit of defeatism and fatalistic despair

that had been gnawing into the vitals of that country under the Czarist regime until the Revolution broke out. Our own conditions to-day resemble, no doubt, much of the conditions prevailing in Russia in 1917 and yet, for obvious reasons, it would be impracticable to insist on an exact parallelism with regard to the Russian Plan and the Indian Plan that might be proposed. We need not discuss the reasons in detail except to mention that when Russia formulated her plan (should we say plans?), she had a strong co-ordinated system of control for working it, and secondly, that she had complete and unrestricted freedom to regulate her economic policy with the sole purpose of giving effect to the plan and supporting it in every possible way. A collectivist regime provided perhaps the only possible medium through which efforts of such a magnitude could materialise. The Government had to assume unprecedented powers to give effect to the plan and to make all efforts at sabotage a dangerous pastime for the enemies of the plan. There is thus a fundamental difference between the circumstances in the midst of which the Indian Plan is to work and the circumstances in the midst of which the Russian Plan was worked. Even if India had a National Government, the existence of vested interests and other limitations would have made too quick a forcing of the pace a matter of insuperable difficulty. The fact, however, that India is still a long way to go before she reaches her goal of complete independence, and that the Government of India Act of 1935 allows her only a very limited freedom to act, are very real obstacles in the way of India adopting as drastic and thorough-going a plan as she might, indeed, wish to adopt. To insist, therefore, on putting a time limit within which the plan must be worked out will not, as matters stand at present, serve any useful purpose. There is a further point to consider in this connection. If after prescribing a time limit, it is found that the plan cannot work up to the given schedule, it may act as a damper, and it is of the greatest essence that the successful working of a plan which is bound to involve a good deal of sacrifice at the outset should always be supported by an enthusiasm keyed up to the highest pitch. It might be noted that even the Russian Five Year Plan was preceded by an experimental plan, for the results of the National Economic Policy were the basis on which the later Plans were built up. The National Recovery Administration of President Roosevelt was also preceded by a brief period of incubation.

The Indian Plan, therefore, must naturally contain an experimental element. In order that the experiment might not fail—failure would be disastrous—the Plan must be very carefully prepared. The proposals must, in other words, avoid being much too ambitious or idealistic to be within the reach of the efforts that we can possibly put forth. It is for these reasons that the importance of economic and statistical surveys and the collection of accurate data have been emphasised as essential pre-requisites for any scheme of planning. The proposals that have been made in the subsequent chapters are based on such data and information as the author has been able to gather. New facts or new light on old facts might very well necessitate the modification of the conclusions reached. In other words, the author does not claim any finality for these conclusions. They provide only a tentative basis for a full fledged scheme which can be prepared only when all the necessary statistics, with scientific interpreparations thereof, are available. Poland took six months to complete a comprehensive enquiry into the conditions and cost of production and trade including electric power.* Even if India takes two years to complete such an enquiry (much of which has already been anticipated by different Committees and Commissions of Enquiry) the time, as we have already indicated, would be well spent.

§ 2

FINANCE.

Reference needs also to be made to the question of finance. The question of finance is a three-fold one. In the first place, there is the general question of the financial resources of the Central and the Provincial Governments, and of that part of these that can be available for nation-building purposes. Secondly, there is the question of the cost of the schemes forming the Economic Plan. Thirdly, there will be the cost of the Organization.

So far as the first of these questions is concerned, the subject will be dealt with more fully in a subsequent chapter. The question of resources includes the question of the existing resources and that of the possibility of augmenting these resources in the future, whether by taxation or by borrowing. It is well-known that the

*See *ante*, p 7 and 9.

Niemeyer Report did no more than place the Provincial Governments on a care and maintenance basis. Any expansion of revenue must therefore be looked for either in the increase of prosperity or in increased taxation. One of the main objects of the Plan will of course be to provide the basis for an all-round increase in the prosperity of the nation which will *pari passu* enhance the taxable capacity of the nation. But the Plan must take its start in a general condition of adversity. The average annual *per capita* revenue in the Provinces varies between Re 1'6 in the case of Bihar to Rs. 7'9 in the case of Sind and of this amount a substantial part, in many Provinces more than 50 per cent, goes to liquidate expenditure which is more or less "charged" to revenue. For instance, the Provincial Legislature cannot touch the salaries and allowances that are paid to the members of the Imperial Services. At the Centre the position is still worse. More than two-thirds of the expenditure is beyond the reach of the members of the Central Legislature, being classed as "non-votable". Since a substantial part of remainder in either case is eaten up in meeting the cost of the civil establishment (even exclusive of the expenditure that is charged), one can well imagine the size of the balance that remains for expenditure on nation-building activities. Since, on top of this, we have to consider the fact that the newly elected popular Legislatures are committed to a policy of reducing the incidence of rent, leading ultimately to a reduction in the land revenue, a policy of prohibition which is bound to deplete the provincial excise revenue to insignificant proportions, and the policy of protection for industries which is bound to be accompanied by a fall in the customs revenue (until in course of time it is replaced by the imposition of compensatory excise duties on local manufactures), the urgency of finding additional sources of revenue to be utilized in promoting and developing the nation-building activities becomes obvious. In other words, if a National Economic Plan is to be completely worked out, the country will require to raise additional resources and the nation must be prepared to foot the bill. It need hardly be added that even if it means additional taxation, these taxes need not come out of the pockets of the poorer people. In fact it will be one of the tasks of economic planning to plan the taxation and tariff system of the country in such a way that the present disparities in the burden or taxation as between the rich and the poor may be removed.

On the question as to how the additional resources are to be raised, it must apparently be decided on the merits of the case. Certain general principles may, however, be laid down. Where any expenditure leads to an improvement of the capital assets of the country and the benefits are likely to accrue not only to the present generation but to the future generations as well, there is a justification for meeting the expenditure by means of a loan, rather than by taxation. In the former case, the expenditure will be in the nature of an investment and the loan will be serviced out of the increased prosperity resulting from the investments. In the latter case, also, borrowing is preferable to taxation because it would be clearly unfair to charge the existing body of taxpayers with the whole burden of the expenditure when its benefits are shared equally if not more, by succeeding generations as well. Similarly, on practical grounds, it might be desirable to meet a certain expenditure by means of a loan if the size of the expenditure were such as would be beyond the capacity of the existing body of taxpayers to meet, provided, of course, the expenditure is considered to be essential in the public interest such as cannot be postponed or split up over a number of years.

So far as the question of national reconstruction is concerned it is evident that the aim of reconstruction is two-fold. It aims at a definite and considerable increase in the national productive power. It aims, secondly, at rationalizing the existing expenditure. In so far as the first aim is concerned, it should be fulfilled by means of loan. An analysis of the movements of capital in Europe during the period of reconstruction following the War will show the extent of the lending and borrowing operations. Even before the War, the international economic organization of the work called for an increasing flow of capital almost wholly from Western Europe, and largely from Great Britain, to the developing new countries. The following Table shows the extent of the employment of British capital (as at December 1913) publicly invested in "Other Lands".

Loans to Dominion and Colonial Government	... £675,000,000
Loans to Foreign Governments	... 297,000,000
Loans to Municipal Governments	... 152,000,000
Railway securities	... 1,531,000,000
Other industrial undertaking	... 1,108,000,000

By 1929, the total volume of British investments overseas was estimated at £ 3,738,000,000. A considerable part of these investments took the form of long-term non-governmental investments in which London played the dominant part. Other countries also, notably France, and the U. S. A. after the War, indulged in large scale lending operations. A large number of countries, on the other hand, figured as borrowers. Not all the borrowing and lending operations were, indeed, meant for industrial investments. But the point that it is intended to convey is that it would not involve any departure from current economic practice to use the credit of a country for purposes which the national budget is not able to meet. Whether India will use her credit with foreign countries in this way and whether the nature of India's trade will bear the burden of such loans is a matter to which the Finance Minister of the Government of India as well as the Provincial Ministers of Finance will have sooner or later to apply their minds. The total volume of India's external debt is already a huge figure. A great part of it, however, is of an unproductive nature or has been incurred to meet the imperial obligations of Great Britain. The total volume of interest bearing obligations of the Government of India amounted in 1932 to a little over Rs. 1,200 crores, of which the value of the loans held in England including war contributions account for a little over Rs. 500 crores. The National Congress has established a clear case for the re-adjustment of these debts as between India and Great Britain. Even the Government of India have made repeated protests against many of the items of India's foreign obligations. Not only on the grounds of equity and justice is there a clear case for a re-adjustment of the public debt of the country, but also it might be contended that under the Government of India Act of 1858 and that of 1915 the revenues of India could not be applied except for the purposes of the Government of India alone*, and as Prof. K. T. Shah † has pointed

*Section 20 of the Act of 1915 : "The revenues of India shall be received for and in the name of His Majesty, and shall, subject to the provisions of the Act, be applied for the purposes of the government of India alone."

cf. also Section 150 (1) of the Government of India Act of 1935 : "No burden shall be imposed on the revenues of the Federation or the provinces except for the purposes of India or some part of India."

†See article By Prof. K. T. Shah in *India Analysed* Vol. III (London, 1934)

out, the war contribution of 1918—and in fact many of the other items of the external debts of the country—can by no trace of interpretation be regarded as “purposes of the Government of India”, so that there is a clear case for a transference of the burden that has been unjustly foisted upon India to the British Exchequer in whose interest and for whose benefit the burden was incurred. It may therefore be assumed that such a re-adjustment of the external debts of India would result in a substantial reduction of the public debt of our country. In any case, for the purpose of developing the national assets of the country, there ought to be no difficulty in utilising the public credit of India for the purpose of raising a national loan abroad, if such a loan cannot be locally obtained.

It is, of course, quite possible that the whole of the national loan may be subscribed by the nation itself. Foreign loans involve a certain inevitable drain of wealth from the country when every single pice may be wanted to strengthen the purchasing power of the country. The service and repayment of such loans also involve a great strain on the trade and commerce of the country. Of course our trade may be so planned under the scheme of national planning that the service and repayment of the loans may be provided for by means of exchange agreements. Even then preference should always be given to internal borrowing as it keeps the money in circulation within the country. The Government of India and the Provincial Governments as well as the public and the semi-public bodies enjoy an unusual degree of credit with the Indian investors even at such low rates of interest as are prevailing now. A National Reconstruction Loan issued under the authority of the Government is sure to be well received by the Indian public. Any undue disturbance of the capital market may be avoided by issuing the loan in stages, or separately, for financing the different plans as and when the occasion arises.

The second aim of national reconstruction, referred to above, is the rationalization of public expenditure. This involves two processes. It involves, firstly, the transference of expenditure as far as possible from unproductive services to productive, and from security services to nation-building services. It involves, secondly, an increase of the nation-building budget even after providing for the

transference of expenditure from the less important channels. This means increased taxation. The poor taxable capacity of the people no doubt sets a limit to the possibilities of increased taxation but as will be shown in a later chapter there is considerable room for tapping sources that have so far escaped altogether or have been bearing less than a proportionate share of the burden. It is not possible to anticipate with any degree of exactitude the amount that can be raised from increased taxation, but there is no doubt that a good many crores of rupees can be raised. Agricultural incomes, death duties, foreign incomes, exports and imports of treasure—these are some of the items which might be profitably considered by the future Finance Ministers in search of extra revenues.

So far as the cost of the National Plan itself and of the separate plans are concerned, it will be dealt with separately under the different plans. It may be stated here that just as it has been considered impracticable to set a limit to the time, it will also be impracticable to set an absolute limit to the cost of the scheme. The only limit that can be set to it is provided by (1) the amount that it would be found necessary to borrow for financing the schemes of development and this again is limited by the amount that the national budget will be able to spare for the service of such loans. (2) the taxable capacity of the people and (3) the amount that can be diverted from the security services to the national services in the existing budgets.

As regards the cost of Organization, it should be regarded as a special privilege and honour to serve on the planning councils and boards. It is, therefore, proposed that only the actual expenses to be incurred by the members by way of travelling and other incidental expenses together with a daily allowance not exceeding Rs. 10/- per day should be paid to the members. This of course excludes to the cost of bringing experts from foreign countries where such experts are not available in the country. The organization of the Secretariat should also be simple. The Government Departments should help in the work as far as possible. The Secretary to the Councils and the Boards should of course be a whole-time and salaried official in each case. His salary should not exceed Rs. 500 per month. It is also desirable that the Chairman of the National Economic Council as well as of the Provincial Councils should also be whole-time officials. It is of course to be preferred that like the

office of the President of the Indian National Congress the office of the Chairman should also be an honorary one. But if suitable persons be not available for such high office on an honorary basis, a maximum salary of Rs. 1.000 may be allowed to the Chairman.

§ 3.

THE PLANS.

It has already been indicated that the National Economic Plan will be based upon (1) Provincial Plans and (2) separate plans for the specific categories of economic activity such as agriculture, industries, trade and commerce, transport and communications, tariff and taxation, finance and banking etc. The specific plans relating to these categories will presently be discussed in detail as it is these plans that constitute the main fabric of the National Plan. No attempt has been made at any exact precision but the general considerations bearing on the formulation of the plans relating to the particular categories have been presented. A cut and dried scheme cannot be laid down without a fuller access to all the data and information that are required than are at present available together with information as to the extent of the willingness and ability of the Government of India as well as the Provincial Governments to fulfil their own share of the obligations in respect of the plans. This cannot be settled without mutual consultation and without reference to the respective legislatures.

CHAPTER VI

ORGANIZATION OF STATISTICS.

§ 1

IMPORTANCE OF STATISTICS.

The importance of correct statistics has been emphasised in more than one place in the previous chapters. The knowledge of the facts bearing on any particular question is the one thing essential that prevents us from being merely opinionate. In the modern world, a statesman or a politician, far less an economist, will soon be out of court if he tended to become merely opinionate. Further it is only by basing our knowledge on true facts and informations that we can hope to achieve success. In the welter of conflicting opinions and interests, facts provide the only sheet anchor for the statesman and the patriot. Statistics is, to define it very roughly, the science of figures. On the twin pillars of facts and figures will rest the national policy of every country. Where figures and facts assume so much importance, the correct *interpretation* of such figures and facts becomes as essential for the formulation of a true national policy as the careful collection of the relevant data. Yet it is only recently that the attention of the scholastic world has begun to be systematically directed towards the study of statistics as a separate subject worthy of the most careful and serious attention. No doubt individual writers had in the past adopted the statistical method for their investigations, but the development of statistics as a distinct subject of study and the provision for a systematic cultivation of the science have been a matter of comparatively recent interest. In India the study of statistics is practically in its infancy. A few universities have incorporated a course in statistics, but there is little non-official interest outside of universities. Even in the Government Departments, there are few officials with the necessary knowledge and training in statistics with the result that the Government reports

suffer very often from an incorrect, and at times, from a biased, presentation. Nor are the data on which the statistical publications issued by the Government from time to time above suspicion.* They are very often indifferently collated and edited. This colossal deficiency in statistics is one of the greatest drawbacks in the way of formulating the right national economic policy for India. In the formulation of the Economic Plan, the pride of place must be given to the organization of statistics. In other words, before the National Economic Council proceeds to prepare the Plan, it must have access to the fullest statistical knowledge bearing on every question with which it has to deal. This means that there must be as complete a statistical survey of the country as possible.

Such a statistical survey must have three main objectives behind it. In the first place, it is necessary for us to stand back and attempt to make a complete and thorough diagnosis of the present economic position. The diagnosis having been made, it is important, secondly, that records should be kept up so that the Government and the representatives of the people in the legislatures or elsewhere may be able to keep their fingers on the economic pulse of the nation. Thirdly, it is of growing importance that the people of India themselves should study and understand their economic position in a scientific way.

Fortunately, the Indian people as well as the Government have been awakened to a sense of the importance of statistics. Ever since the days of the late G. K. Gokhale and M. G. Ranade, there has been an awakening of interest in the study of facts and figures, based mainly on the recognition of the value of the aphorism that an ounce of fact is worth a ton of precept. These studies were, however, not as objective as that of a science should be. They were often prejudiced by the requirements of a pre-conceived end. Facts were often selected or interpreted in a manner so as to subserve such an end. That such a point of view defeats the very purpose of statistics and is ultimately against the interests of India need not be emphasised. Fortunately, Indian students have taken up the study of statistics in a scientific spirit not only in the Universities but also under the guidance of non-official bodies. One such body is the Indian Statistical Institute which was started in Calcutta in December, 1931 under

* See *Sankhya* Oct. 1934 p. 475.

the able guidance of Professor P. C. Mahalanobis of the Presidency College. Within the short space of six years, it has earned not only the recognition of the Provincial as well as the Central Government but also of international institutes. The objects of the Institute are (1) to promote the study of statistics, both pure and applied, as well as allied subjects and (2) to provide for research and instruction for the advancement of the study and dissemination of the knowledge of statistics and allied subjects. The Institute has branches at Bombay, Poona and Mysore. It is in short a pioneering institution of its kind and is doing a good deal of spade work, in addition to its normal duties, for the study of statistics in all his branches and rousing public interest in such study. In a vast country like India, the work of such an institution conducted by trained scholars working with a purely objective attitude cannot be too strongly commended.

§ 2

THE NEED FOR A STATISTICAL ORGANIZATION.

The existence of non-official interest in statistical work is particularly valuable from one point of view. It has awakened the public conscience against the many deficiencies of official statistical publications and this has led to efforts on the part of the Government to improve the statistical organization of the country. As the Indian Economic Enquiry Committee (1925) point out in their Report, "the time has arrived when a survey should be regarded as an indispensable preliminary to the formulation of economic policies and the treatment of many of the larger problems that arise in connection with the economic development of the country." The following opinions and views quoted in the Report will also prove of interest. Thus the official Year Book of Canada for 1922-23 states : "Statistics are not merely a record of what has been, but are for use in planning what shall be ; it is the duty of a statistical bureau to assist directly in the day to day problems of administration as well as to provide their theoretic background. One of the most significant of recent developments in administration is the extent to which statistical organization has been increased as a guide to national policy." Mr. R. H. Coats, Dominion Statistician of Canada writes : "Organized co-ordinated effort is essential to the progress of the administrative equipment of the country and the statistics are the corner-stone—

the basic organization without which the endeavour to meet new situations will be seriously handicapped." Again Mr. G. H. Knibbs, formerly the Commonwealth Statistician of Australia, in a paper read before the British Royal Statistical Society in January 1920, said: "A Department whose duty it is to keep the Government, publicists, and the economists and the nation generally, informed as to the movement of every important activity in it, and of population facts, is of obvious value if intelligent direction is to be given to national affairs, or an intelligent study of them is to be made possible. To a large extent, existing statistics are a side product of various government or other departments, produced mainly as a sort of public advertisement of their activity or for departmental use, each acting on its own initiative, the whole unco-ordinated and often without appropriate technical direction."* These observations, as the Committee point out, apply *mutatis mutandis* to the conditions of British India.

The Committee accordingly propose the organization of a Central Bureau of Statistics for the purpose of conducting statistical surveys and enquiries, with which should be associated Advisory Boards. The actual organization suggested will be presently discussed but it may be mentioned here that the need for setting up an Advisory Committee for Indian official statistical publications has long been felt in the country. A writer who contributed a Note on the subject to the *Sankhya*, the Indian Journal of Statistics, quoted certain interesting examples drawn from Government publications which suggested an absolute lack of co-ordination in the preparation of such publications.† Terms are often used with different meanings in different publications, and in some cases the writer of a particular report may not know of what another writer has already written. Facts are often presented without due care or checking. It is thus not at all remarkable that Professor Karl Pearson of the University of London should have felt impelled to refer to "two or three papers from India printed for Government publications, which show a lamentable ignorance of statistical training, while indulging in quite a wide range of statistical mathematics."‡

* Report of the Indian Economic Enquiry Committee, 1925, p. 5.

† Mr. J. M. Datta : The Need of an Advisory Committee for Indian Official Statistical Publications (*Sankhya*, October, 1934, p. 435).

‡ Professor Pearson writing to Professor Mahalanobis, dated August 15, 1933, published in the *Sankhya*, October, 1934.

§ 3

THE EXISTING DEFICIENCIES.

We may now turn to some of the defects and deficiencies of the existing statistical publications available in the country. The following are some of the defects that have been pointed out by the Indian Economic Enquiry Committee :—

(i) The production statistics are “decidedly incomplete”. Estimates of production of the country have been prepared by non-official experts, but no attempt has been made to bring together officially statistics relating to various kinds of production together with their value, incomplete as they are.

(ii) No figures are available of internal trade, these having been discontinued as the result of the recommendations of the Inchcape Committee.

(iii) No information is available about motor vehicles used in transport or boats.

(iv) The vital statistics are said to be complete enough but the agency for reporting them is not reliable.

(v) The agricultural statistics, inspite of their bulk do not provide material for deducting either the quantity or value of the total agricultural production.*

The provinces now publish separately the area only under the main crops. The minor crops are lumped together. The crop experiments for the purpose of determining the standard yield are confined generally to the principal crops. No systematic experiments are conducted for the purpose of determining the production of the minor crops. The Indian Economic Enquiry Committee, however, thought that it was not necessary to take a detailed census of

* “While the total yield is estimated in respect of the principal crops, not even the area is given separately for minor and mixed crops. The value is worked out only for certain crops in some of the provinces, while in Madras and Bombay complete estimates of the value of agricultural production for a year have been prepared, through the enterprise of individual officers. Some witnesses consider the record of area to be unreliable ; others hold that the yield has no reliable basis. In tracts under permanent settlement the estimates of area and yield are prepared from reports made by ignorant and low-paid police *chowkidars*. The wholesale prices at which the value of agricultural outturn is calculated are considered in certain provinces to be untrustworthy. There can be no denying the fact that from the point of view of economic data, the agricultural statistics are defective”.—Report of the Indian Economic Enquiry Committee, 1925, p. 17.

agricultural production. In view of the existing deficiency which the present agricultural statistics reveal, and in view of the value and importance of such statistics to India, it seems desirable that every effort should be made to collect a full and comprehensive statistics about the condition of the crops, the yield and the changes in the prices as far as practicable.

(vi) No statistics are available about the quantity and value of fruit and vegetable production.

(vii) No statistics are available about pastoral and dairy farm production.

(viii) No regular cattle census is taken and such census as has been taken is not complete.

(ix) The statistics relating to fisheries is also far from satisfactory, and the information given is quite incomplete.

(x) The statistics relating to organized industries, that is, industries governed by the Indian Factories Act, is also hopelessly incomplete. Information about the production of manufactured goods is available only for some of the industries. The publication of "Large Industrial Establishments" contains only a list of establishments with the number of employees. The values of outturn are given in no case, nor are the quantity and value of the raw material used given except only in a few cases (e.g. in the case of raw cotton and jute).

(xi) The material relating to production from cottage industries is exceedingly meagre. Beyond localised spasmodic efforts, no attempt has been made to ascertain the total production of cottage industries.

(xii) The statistics relating to incomes cover only a very limited field. All agricultural incomes are excluded and this omission leaves out the most important source of income in India. The income-tax statistics relate to only a very small fraction of the total population.

(xiii) No official estimates of the wealth of India, national or private, have been attempted in the past. Such figures as have been computed by private investigators vary within wide limits, and are no better than rough guesses made on the basis of published statistical and other materials relating to the country.

(xiv) As regards the cost of living index number, we have no reliable statistics covering the whole country. Such figures as we have are concerned with specific investigations or relate to specific provinces. No attempt has been made to fix either a standard diet or a minimum subsistence level.

(xv) The statistics of wages have so far been very defective in this country. The statistics that used to be published in the annual issues of "Prices and Wages" suffered from serious limitations. The wage censuses of 1911 and 1916 did not yield very satisfactory result, and have since been discontinued. There have been certain special enquiries into wages but these do not meet the requirements of a full wage census.

Since the Report of the Indian Economic Enquiry Committee was published, there has been some improvement in the compilation and presentation of official statistics, but the deficiencies are yet too many to escape attention. An Official Statistics Committee was appointed by the Indian Statistical Institute in 1933 to consider the question afresh. The Committee consisted of Dr. John Matthai as Chairman, one nominee of the Bengal National Chamber of Commerce (Mr. H. D. Ghose, M.A.), one nominee of the Bengal Chamber of Commerce (Mr. Laidlaw, C.A.), one nominee of the Indian Chamber of Commerce (Mr. G. L. Mehta, M.A.), Professor J. C. Sinha, M.A., Ph. D., Professor P. C. Mahalanobis, B.A., (*Cantab*), and Mr. N. C. Mehta, M.A. (*Cantab*), I.C.S., as members, and Dr. H. Sinha, M.Sc., Ph.D. as Secretary. The Committee reported in April 1936.

The following are some of the improvements of the existing statistical materials which have been suggested in the report of the Committee :—

(1) Improvement in the existing method of recording areas in permanently settled tracts such as Bengal as recommended by the Royal Commission on Indian Agriculture.

(2) Improvement in the method of estimating the yield per acre. The Committee regard the recommendation made in the Bowley-Robertson Report for adopting the method of estimating directly the yield per acre as impracticable.

(3) At present All-India forecasts do not refer to the whole crop. Information contained in the all-India forecasts is generally a

month old. The time has come for compiling all-India forecasts for such crops as *jowar*, *bajra*, *maize* and *ragi*. District figures of crop yields are not available for several provinces.

(4) So far as financial statistics are concerned, the Committee recommended that an attempt might be made to prepare an estimate of the movement of private capital in connection with India's balance of payments. The Bombay Chamber of Commerce further suggested that figures relating to dividends on capital invested might be inserted in the *Statistical Abstract* as these would give a valuable index of the industrial and commercial activity of the country.

(5) On the question of industrial statistics, the Committee endorsed the suggestion made by the Bombay Chamber of Commerce for compiling the statistics of the consumption of power by different industries. This, it is suggested, would give a clue to the pace of industrialization in India and also furnish a satisfactory index of industrial activity of the country.

(6) The Committee do not favour the suggestion made by Mr. Laidlaw and the Bombay Chamber of Commerce for the collection of unemployment statistics. They agree with the Bowley-Robertson Report (p. 51) in thinking that it is not a practicable proposition to compile such statistics.*

(7) An important recommendation made by the Committee is that the Indian series of the index number of prices (base 1873) should be discontinued. This was also the view of the Bowley-Robertson Report. The Committee also point out that the Calcutta index number has grown out of date partly because the base is distant and partly because the list of commodities requires revision. It is desirable, they suggest, that a new series with a suitable post-war base should be started.

(8) Another defect relates to the discrepancy in trade statistics as recorded in European countries and in India. As long ago as 1905 the question of the improvement and standardization of trade statistics was examined by a Committee appointed by the Government of India which was subsequently followed by further consideration.

*The question, however, should be considered whether an attempt should be made to collect such statistics at the time of the next census enumeration, the general schedule being employed for the purpose.

"We strongly urge," the Committee state, "that every effort should be made to improve the trade statistics so as to enable one to make a systematic study of the direction of trade in these days of commercial agreements, quotas and preferences."

The above refer only to some of the defects mentioned in the report of the Committee. Only those defects have here been noticed which seem to have a bearing on the immediate requirements of an Economic Plan. Most of the defects have been due to the conflict between statistical needs and administrative purposes. As the Royal Commission on Agriculture had put it: "The whole basis of statistics in India urgently requires broadening. It should rest not on the work of a few government officials, however able, but on the support of the informed public, and through them, on the recognition by the legislatures and by the general public that modern statistical methods are in a position to make an indispensable contribution to the successful development . . . of social administration."

The question of improvement of official statistics must extend to a proper definition of technical terms and expressions. Thus as Professor J. C. Sinha has pointed out, the expression "harvest price" has at least three different meanings. It may mean the wholesale price ruling at the headquarters of the district concerned during the harvest period; it may mean the average of wholesale prices ruling in important markets of the district during the harvest period; or it may mean the price which the ryots of a particular district who raise the crop generally receive. Instances can be multiplied showing the want of precision in the use of such terms.

These facts as pointed out by the Economic Enquiry Committee and by the Committee of the Indian Statistical Institute clearly emphasise the deficiencies of the existing statistical material. Before, however, we pass on to consider any scheme for filling in the existing gaps in the statistics relating to India, it would perhaps be necessary to refer to certain special difficulties in the way of a complete statistical presentation of the economic conditions prevailing in a country of the size of India. India is not a homogeneous country, and by habits and tradition the Indian is not accustomed to supply or otherwise help in the collection of accurate information on matters relating to his private activities. Even the organised trades which can afford

to have their own private statistical organisations seldom evince any active interest in the collection and interpretation of statistical data relating to their own trades. Other difficulties in the way of the compilation of accurate statistics include the phenomenal illiteracy of the people, the rural character of the population, lack of facilities of transport and communications, the cottage system of production, the usual attitude of suspicion whenever any question, of which the immediate context cannot be discovered, is put to the people, and the like. The question of cost is also another problem which the Government as well as the taxpayer seem unwilling to face. In a country where the population live in a more or less concentrated form as in the industrial countries, the collection of statistics is not a too costly affair. But where the population live in villages that are widely scattered, the collection of statistics seems to involve a prohibitive cost. Again, in a country like England, the statistics of production (agriculture, pasture, dairy, industry, mining etc.), of wages and prices, etc., are usually collected through the distribution of special schedules by post or hand to the persons concerned who are required to complete and return them within a specified time—a more accurate and cheaper method than that of employing a paid staff of investigators.* This method cannot obviously be followed in India for the simple reason that the colossal illiteracy of the people stands in the way of such a method being utilised. Even the attempt to secure a census of the educated unemployed failed in 1931 which the author believes was due mainly to the method followed. Investigators can however be appointed at a relatively small remuneration in this country, and, as we shall presently see, the Indian Economic Enquiry Committee as well as Dr. Bowley and Mr. Robertson recommended the appointment of such investigators for India for the purpose of collecting the materials for an economic survey of the country. It is also a happy sign that trade, commerce and industry have realised the necessity of associated activity, and the associations that have already been set up, whether by private efforts or under the auspices of the Government, may very properly be asked to assist in the collection of statistics relating to the interests that they represent. At any rate it may be possible to make a beginning with the collection of statistics relating to produc-

*See the Note of Dissent by Professor A. R. Burnett-Hurst to the Report of the Indian Economic Enquiry Committee.

tion, and to extend the scope of the enquiries over a larger field according to necessity and convenience.

§ 4

THE ORGANIZATION.

It has already been suggested that a statistical enquiry in a country like India is likely to entail a heavy cost. It is because on account of the general illiteracy of the country, enquiry by the distribution of schedules is not likely to evoke any corresponding response. The scheme suggested by the Indian Economic Enquiry Committee as well as that suggested by Dr. Bowley and Mr. Robertson has been found to be unacceptable partly on the ground of cost.

The Indian Economic Enquiry Committee recommended that all statistical work should, as in the Dominions, be co-ordinated and centralized, the aim being to provide a common purpose and give the statistics an economic trend by means of a central thinking office. The following are the relevant recommendations of the Committee :—

(i) A Central Statistical Bureau should be established at the headquarters of the Central Government to take the place of the Statistical Section of the office of the Director-General of Commercial Intelligence for the purpose of centralization of statistics, particularly those of economic significance. It should be presided over by a Director of Statistics assisted with a requisite staff. The Director should be able, in addition, to work as the Census Commissioner for the decennial population census.

(ii) Every province should have a provincial Statistical Bureau with a Provincial Statistician at its head and a staff of Assistants, usually one for every revenue division, to supervise the work in the districts.

(iii) An advisory body should be associated with each of these bureaux. The existing Publicity Advisory Committee might be strengthened by the addition of the Director of Statistics and three other members with statistical or economic experience, and utilized as an Advisory Body to the Central Bureau. In every province there should be a Board of Economic Enquiry to advise the Provincial Statistician and if

necessary, to supervise the work connected with economic research.

(iv) There will be two distinct agencies working in each district for collecting economic data—(a) a staff of inspectors to collect statistics of production other than those furnished by Government departments, and clerks for the compilation of statistics of agricultural production etc., and (b) qualified investigators for intensive enquiries.

The former staff will be under the supervision of the Revenue Department but controlled in technical matters by the Statistical Department; and the latter, while acting under the direct control of the Assistant Statistician will be associated with the Revenue Department in the matter of regulating their relations with the people.

(v) On the scale provided, the investigators will be able to collect every year data relating to about 2½ per cent of the rural and 4 per cent of the urban population. It is expected that as data continue to accumulate, generalizations from them will become more and more reliable.

(vi) Local agencies in villages, such as co-operative societies and local committees of zemindars, schoolmasters, shopkeepers, etc., should be associated with the inspectors and investigators as far as possible.

The services of superintendents of cottage industries, grazing inspectors, members of the staff of co-operative credit societies and other officers may be utilized when available.

(vii) It is suggested that the labour offices in Bombay, Madras and Burma should be absorbed in the proposed Provincial Statistical Bureaux and that the posts of Director of Land Records and Provincial Statistician be amalgamated wherever possible.

(viii) The publication of an Official Year Book for British India is recommended. The statistics collected should be reviewed quinquennially by the provincial and Central Bureaux. The results of each year's work should be reviewed and discussed in the legislatures concerned at the time of the presentation of the annual budget.

(ix) It is suggested that the Indian States be invited in their own interests as well as those of the country as a whole to undertake economic surveys on parallel lines and to join British India in a common organization for the collection of statistical data.

It is to be noted that in many of the provinces, Boards of Economic Enquiry have been set up but these are working not as the part of a comprehensive scheme of statistical investigation but as organizations charged more or less with specific enquiries with a duty to report to the respective Provincial Governments. The statistical staff have been strengthened at the Centre but not to the extent that would signify the initiation of a comprehensive scheme. So far as the scheme suggested by the Indian Economic Enquiry Committee is concerned, the total estimated cost, worked out on the basis of population for all the provinces of British India, aggregates Rs. 56'79 lakhs recurring and Rs. 30'62 lakhs for expenditure on initial equipment, etc., in the first two years. This is exclusive of the expenditure on the Central Bureau. The tracts under permanent settlement may require some further expenditure for securing reliable data concerning agricultural production. This will have to be determined for themselves by the Provincial Governments concerned. The Provincial Governments should ordinarily bear the entire provincial expenditure but, in view of financial stringency in the provinces, it is suggested that for a period of five years the Central Government may meet half of such expenditure.

It is to be seen that a good deal of the cost of the scheme is due to the intensive surveys of income, expenditure, wealth and indebtedness proposed by the Committee. There is no gainsaying the fact that these surveys are absolutely essential and could indeed be added to. The Committee have proposed the appointment of a number of investigators to carry out these intensive surveys on the basis of 1200 families per year per investigator or 600 families per year per investigator in the urban areas. In other words, every investigator is expected to deal with 12 villages, or one town, in a year.

The proposals of the Committee, it is to be seen, err on the side of modesty and economy. The Committee do not appear to think the time-factor to be an essential point. Since, however, in a

scheme of economic planning, the time-factor is an essential element, the staff of investigators has to be proportionately strengthened, which would mean increased annual cost. No more than two years should be given to the completion of these statistics so that instead of two, as suggested by the Committee, there ought to be at least forty-eight investigators working in the rural areas of each district—in a district like one in Bengal, the number of investigators will have to be considerably larger because of the large size of most of the districts—and at least twelve investigators for each town. But we think that by the utilization of the local agencies as far as practicable the actual number of whole-time investigators can be brought down to the minimum. The co-operative societies, the sanitary units, the village accountants and money lenders, the local bodies—these can all assist in the carrying out of the surveys.

§ 5.

THE BOWLEY-ROBERTSON REPORT

We have seen that the report of the Indian Economic Enquiry Committee practically came to nothing, so far as Government action was concerned. The next step that the Government took was the appointment of Professor A. L. Bowley, Professor of Statistics, University of London, and Mr. D. H. Robertson, Lecturer on Economics, University of Cambridge, for the purpose of carrying out another investigation into the question. Their report was published on the 10th of April, 1934.

In their report, they assumed that the existing Economic Sub-Committee of the Viceroy's Executive Council would continue. They recommended, however, the abolition of the post of the Director of Commercial Intelligence and Statistics and the establishment of a permanent economic staff attached to the Economic Sub-Committee of the Executive Council, this staff to consist of four members on salaries to attract men of high ability and standing. The senior member of this staff, they suggested, should be Secretary to the Economic Sub-Committee.*

*On the question of the retention of the Economic Sub-Committee of the Executive Council, the following extract from a speech delivered by Mr. F. E. James in the Central Legislative Assembly in the preceding March will be read with interest:—"The group recognised the value of the work of the Economic

The report did not recommend any immediate estimate of India's national wealth as a whole, but it suggested that an investigation should be conducted on the basis of production in rural and urban areas. The Indian States should be included so far as they are willing and able to co-operate.

In rural investigations, the method recommended was that of intensive surveys in selected villages. As for urban income, the experts recommended in the first instance, surveys of larger towns based on a "sample" inquiry of the personnel and occupations of families and an estimate of their incomes, and secondly, a census of the urban population and a census of their occupations.

The report suggested the appointment of seven provincial Superintendents, 470 superior investigators, and 1,180 assistant investigators. One investigator should live in each selected village for twelve months, and in many cases, villages could be grouped in threes or fours.

A qualified statistician should be in charge of each province and the whole survey should be controlled by the Director of Statistics.

One of the most important recommendations made by the Economic Experts related to the taking of a census of production. It was proposed that the census should be conducted by the Director of Statistics and executive arrangements should be made through the Department of Industries and Labour. It should be imposed, as in Great Britain, by a Special Act of the Central Legislature. It is understood that Chambers of Commerce as well as individual industrialists had lent their general support to the idea.

Specialized studies were postulated in respect of the problems of the relations of the landlord and the tenant, relations of the creditor and the debtor, and relations of the producer and the middleman.

The cost of these investigations was estimated by the Committee to be Rs. 30 lakhs. Of this, Rs. 21 lakhs would be required for rural surveys, Rs. 3 lakhs for urban surveys. Rs. 2 lakhs for urban census and Rs. 2 lakhs for the census of production.

Sub-Committee of the Executive Council, but it was really the Cabinet, less one or two members. That Sub-Committee was not in a position to consider problems before they come up for immediate solution. Europeans believed that there should be some body not faced with day to day problems that should consider the great economic problems facing all countries as well as India..... There should be an Economic Advisory Council."

The report, however thought it impracticable to make direct investigations into the circumstances of each of the half a million villages in British India in any reasonably short time, even if the expenses could be met or a sufficient number of investigators found, and the authors of the report deemed it desirable to proceed by sampling. One of the items of enquiry that they proposed was the determination of the comparative statistical position of the factory industry and the cottage industry so as to show the extent to which the progress of the former has been at the expense of the latter.

According to the report, the whole thing was expected to be concluded in three years.

On the subject of economic planning, an expression which the authors of the report studiously avoided using throughout their report, they made certain interesting observations. They remarked that the phrase "economic planning" was used in such infinite variety of senses that it was liable to be misunderstood. "It is possible for Governments to do as much harm by guiding production into unsuitable channels as they have done good by drawing idle resources of land, labour and capital organization into use". Not all intervention is, of course, attended with risk, such as the provision of irrigation works, roads, hydro-electric power, that is, of general productive equipment. The state, by providing these things, assumes no direct responsibility for the use that is made of them. "But in so far as it does decide to intervene in the fortunes of particular branches of production, it would seem that an examination of the situation by such an economic staff as we propose will be highly desirable, and a systematised knowledge, both of the outturn of the various branches of activity and of the net value of that output so far as it can be revealed by a census of production and auxiliary inquiries, is required as the background for their activities."

§ 6

PLANNING OF STATISTICS.

It has already been noticed that the question of time is an important element in planning. To set a definite time limit has no doubt been regarded as undesirable and impracticable, but it cannot be gainsaid that a plan would defeat its purpose if it took an

inordinately long time to complete it. Speed in execution is all the more important in the case of a statistical survey. Delay would mean that the results of the earlier enquiries would become out of date. The facts and the materials on which the Economic Plan should be based must be as up-to-date as possible.

The planning of statistics involves two things. In the first place, it involves a preliminary enquiry associated with the collection of the initial facts and materials. Secondly, it means the setting up of a standing organization to maintain the continuity of these statistics.

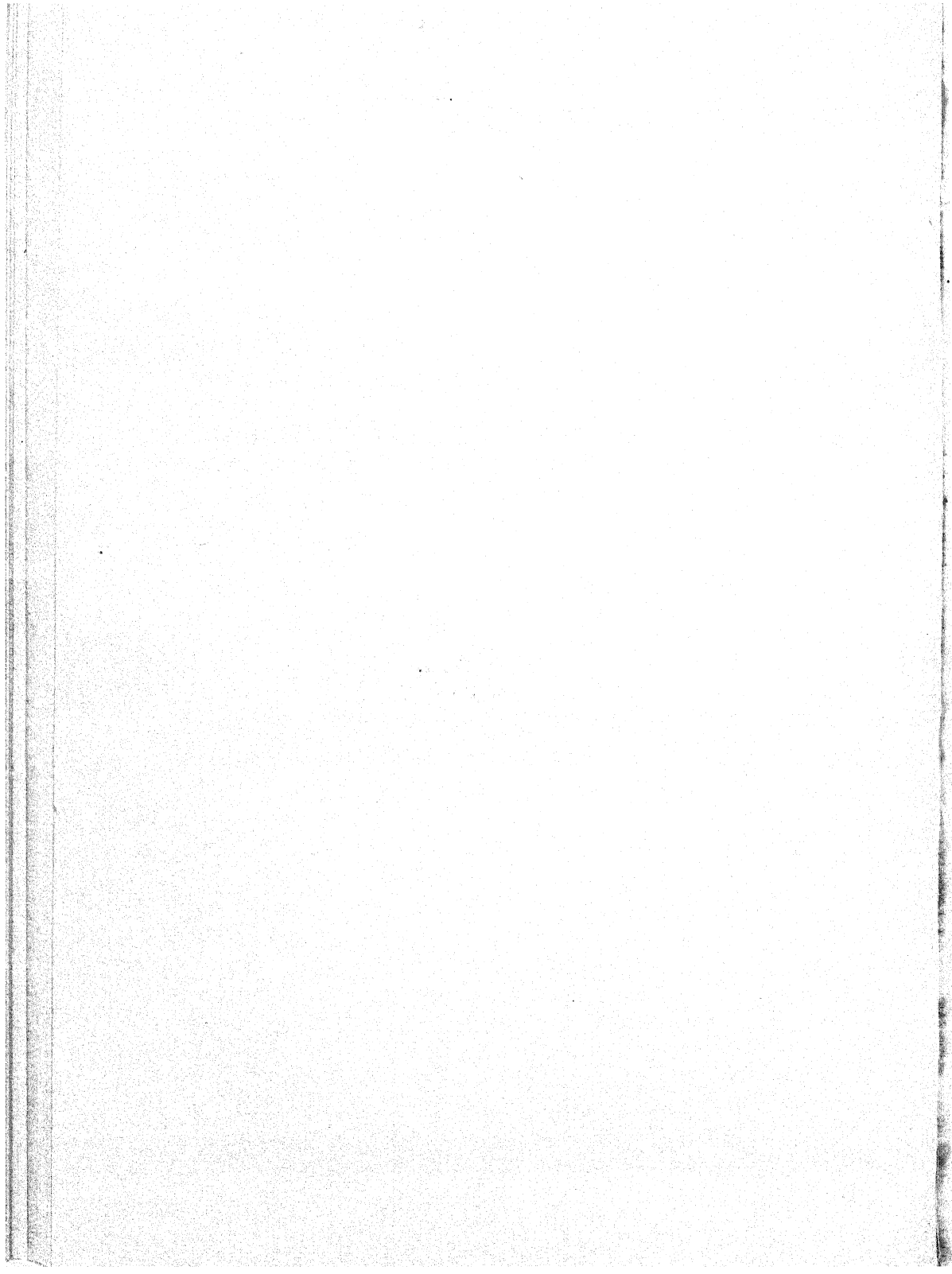
So far as the first question is concerned, regard being had to the necessity of finishing the survey within a short time, the sampling process recommended by the Indian Economic Enquiry Committee and in the Report of Dr. Bowley and Mr. Robertson should be adopted for such proposes for which a detailed investigation might be dispensed with. The sampling method would thus be appropriate to the collection of such statistics as those relating to incomes, standard of living, yield of crops, wage statistics, dietic surveys etc. In other cases an extensive survey might be necessary instead of the intensive. The actual number of investigators that would be necessary for such surveys, intensive as well as extensive, might be determined on the basis of the reports discussed above and finally fixed by the Economic Council in consultation with the Bureau of Survey, Statistics and Research.

This Bureau will provide the standing organization for the collection and maintenance of statistics. It is not desirable that members of the Executive Council of the Governor General should be burdened with the actual planning of statistics. It is the Federal Ministers, and not the Members of the present Executive Council, with whom the planning authority will ultimately have to deal and it is not intended that the responsibility of planning the plan and executing it should devolve on the Ministers. The Bureau of Survey, Statistics and Research should take over completely the duty of conducting the surveys and maintaining a permanent research organisation. The research organisation of the Bureau should be more a co-ordinating body than an institution for conducting the researches directly. In its work the Bureau should be associated with

advisory bodies to whom all proposals for research together with the estimates of cost should be submitted by the Bureau. We have already a very useful body in the Imperial Council of Agricultural Research. It may be necessary to set up a separate body for nutritional research to which the Conoor Laboratory might be adapted. The country also requires the establishment of an institution of scientific and industrial research on the lines of that established in Britain. The present Industrial Research Bureau affiliated to the Great Indian Stores Department does not fulfil the functions of a national institution for scientific and industrial research.

It is needless to add that these research organizations should be composed only of trained scholars, experts and research workers. It is not intended that these workers should be influenced by any political considerations. Since however the researches will be mostly motivated by national needs, the necessary direction should come not so much from the Bureau as from the National Economic Council. Even in a country like the United Kingdom, the May Committee of 1931 had reported on the necessity of finding "a strong representation of persons in close touch with national needs" on the advisory bodies for conducting research. Our proposals are based on the fact that the national representation is supplied by the National Economic Council. The frame work of the actual scheme of organisation suggested will be found in Chapter VIII of this book.

PART II.
PLANS



CHAPTER VII

INTRODUCTORY

In this chapter the general plan of the following chapters will be indicated. In the previous chapters, the general principles of planning have been discussed. An attempt has also been made to indicate the main outline of the scheme of planning suitable for India. The method of preparing the plan has also been suggested.

The main idea, to repeat, is that the scheme should consist of (1) an All-India Plan with its specific counterparts for agriculture, industries, transport, banking, etc., (2) Provincial Plans, also with their corresponding counterparts and (3) a scheme of organisation of statistics and research. It has been explained that the All-India Plan should be mainly based on the Provincial Plans, except, of course, where the All-India Plan deals with subjects that are outside the competence of the Provincial Governments. The main plans, whether Central or Provincial, will be based upon a number of individual plans relating to the different categories of our economic life, and between them, covering the whole of the economic life.

It will be seen that it is these individual plans that hold the key to the entire scheme of planning. An attempt will therefore be made in the subsequent chapters to fix up the main outlines of these individual plans. When once the main outlines of these plans have been fixed, it would be possible to fix up the main plan itself whether at the Centre or in the Provinces. Since the provincial plans will necessarily have to be adjusted to the requirements of the different provinces, an attempt will be made in the following pages to consider only the plans which will be of all-India application. Secondly, so far as the provinces are concerned, while no attempt will be made to make any detailed suggestion for the economic reconstruction of the provinces, an effort will be made to lay down

certain general principles, wherever possible, that might indicate the general character and content of planning for the provinces as a whole.

Accordingly, it is proposed in the following chapters to take up the following plans for consideration in the order given below.

In the next chapter, the scheme of the organisation of statistics and research will be presented.

In the chapter on Population Planning, an attempt will be made to find out ways and means for securing a better distribution of the population, and a saner policy for the control of the growth of population in the country. The quality of the population will also come under reference and the ingredients of a proper health policy will be suggested.

In the chapters dealing with the improvement of agriculture, an attempt will be made to discuss the question with reference to the following topics, that is to say, planning of crops, introduction of rational methods of cultivation together with the question of irrigation, system of land tenure, the question of small holdings, and that of agricultural finance including the problem of rationalizing the co-operative movement and improvement of livestock.

In the chapter on Village Re-organization, the question will be studied mainly as an aspect of environmental improvement. By environmental improvement is meant not only the improvement of the natural and economic environment, but of the cultural and moral environment as well. The scheme of the All-India Village Industries Association will be considered in this connection.

In the chapters on Industrial Development, the subject will be discussed in accordance with the usual classification of industries—large, medium and small industries. The question of a regional, planning of industries will be discussed in this connection. The question of establishing a proper relation between agriculture and industries will also be explored. The problem of industrial finance will also be discussed.

In the chapters on Labour and Unemployment, the question of providing employment to the vast mass of "non-working dependants" will be explored. An attempt will be made in this connection to

suggest the possible ways in which the problem of the unemployment of the educated classes can be solved. The question of labour welfare and that of establishing a proper relation between the employer and the employed will also be considered.

In the chapter on Transport, the problem of co-ordination will be presented in all its aspects. The case for the nationalization of transport and for the national regulation of rates and freights will be presented.

In the chapter on Banking Reform, suggestions will be made to diversify the Indian system of banking with particular reference to the need for organizing a system of cheap and at the same time sound credit for agriculture and industries. Methods for co-ordinating the entire credit system of the country will be investigated. The question of a proper currency standard and regulation of foreign exchange will also come under review.

In the chapter on Tariff Reform, the intimate relation between tariff, taxation, trade and the national welfare will be discussed and suggestions will be made for rationalizing the existing scheme of tariffs and taxation with a view to maximizing national welfare.

In the chapter on National Expenditure, the whole of the system of public finance will come under review and suggestions will be made for a well-planned spending of the national revenues. The question of Army expenditure will, in particular, be fully discussed.

Finally, it is to be noted that the suggestions that will be made in these chapters will not only be inter-related and between them present the whole case for the economic reconstruction of India but will be given in a general rather than in a detailed form so as not to appear to be too dogmatic or academic. If the schemes are accepted by those on whom will rest the responsibility for the economic reconstruction of the country, it will not be difficult to fill in the details of the picture.

CHAPTER VIII

PLANNING OF STATISTICS AND RESEARCH

§ 1

THE BUREAU OF SURVEY, STATISTICS AND RESEARCH.

In Chapter VI, the importance of statistics and the need for the organization of statistics and research for the purposes of economic planning has been fully discussed. In Chapter IV, the establishment of a Bureau of Survey, Statistics and Research has been suggested as a fundamental part of a comprehensive scheme of planning. The Bureau will have its provincial counterparts consisting of a personnel of trained experts and scholars. In this chapter the organization and functions of the Bureau will be discussed in somewhat greater detail.

A reference to Chapter VI will show that the deficiencies of the statistical material available in India relate almost to every branch of our activities. The statistical enquiries necessary for planning must therefore embrace all such activities, including those that relate to agriculture, fisheries, mineral resources, fruit culture, animal husbandry, organised as well as small industries, industrial production, incomes and wages, price level, cost of living, nutrition etc. Since a single department cannot obviously deal with so many enquiries and since it is essential to undertake these enquiries before economic planning can be possible, the Bureau will have to split itself into several departments. There will be, as suggested by the name of the Bureau, three major departments. One will organize the surveys, a second will be concerned with the collection and publication of statistics, and the third will initiate, promote and organize research. These departments, again, will be subdivided into a number of what may be called sub-departments or sections. Thus the department concerned with the surveys will be split up into

as many sections as there will be surveys. Where there are already well-established surveys such as the Archaeological Survey the Geological Survey and the Zoological Survey, these may be allowed to maintain their separate existence but for the purposes of planning they will have to be integrated to the general scheme of planning. There are certain other surveys which are obviously of an economic nature and which must be undertaken as required for the purposes of planning. Thus a hydrographic survey should be an indispensable pre-requisite for certain important aspects of planning. The requirements of inland transport and communication, and irrigation cannot be fully attended to without such a survey. Similarly, schemes of flood control, and the resuscitation of the dead and the dying rivers must be based on the results of such a survey. A policy of land reclamation will also depend on such results. Other surveys that may be proposed are those which will provide the basic materials for research. To that extent the functions of the departments of survey and those of the departments of research should be regarded as complementary. Thus, nutritional research should be based on dietetic surveys with particular reference to the food resources provided by Nature. Village surveys on an intensive scale will also provide numerous valuable data for the framing of a national policy of rural development. Similarly the initiation and organization of a census of cattle and small industries will fill up important gaps in the existing statistical materials. Again, a census of the unemployed is also to be considered essential for the purpose of framing a suitable policy for dealing with this socio-economic problem.

As regards the department of statistics, the various deficiencies of the existing statistical materials as pointed out by the Indian Economic Enquiry Committee and the Committee of the Indian Statistical Institute, and in the report of Dr. Bowley and Mr. Robertson have already been discussed. In particular, we refer to the need for compiling or improving the following statistics :—

The area, yield and value of the total agricultural production ;

Statistics of internal trade, including statistics of inter-provincial trade ;

Statistics of consumption ;

- Improvement of the agency for the collection of vital statistics ; legislative action to make the registration of births and deaths compulsory ;
- Statistics of cottage and small industries and their production and the value of such production ;
- Cost of living index number for the whole country ; the determination of a standard diet and a minimum subsistence level ;
- Statistics of wages to be preceded by a full wage census ;
- Determination of the wealth of India, national and private ;
- Improvement and expediting of crop forecasts ;
- Statistics of the movements of capital ;
- Statistics relating to the consumption of power ;
- Full and complete interpretation of the direction of trade ;
- Unemployment statistics ;
- Localization of industries and their regional distribution.

These are some of directions in which India requires to improve her economic intelligence. The list of course is intended to be suggestive or illustrative rather than exhaustive. It will be seen that in order to make the Bureau successful in its task, a much greater outlay will be necessary than either the Indian Economic Enquiry Committee or Dr. Robertson and Mr. Bowley anticipated. It is however possible to avoid a great deal of the cost if full utilisation is made of the existing organizations such as the Chambers of Commerce, Trades Associations, Co-operative Societies, Producers' Associations, Universities, Economic Associations and other voluntary agencies for procuring, or for help in procuring, the information that may be sought. If a central agency is set up for the purpose of directing and co-ordinating these enquiries, they may be finished within the requisite time, for it may be permissible to assume that with the consciousness that the work is invested with national importance, the various organizations and associations whose help may be sought will willingly co-operate in the great task. The Indian Statistical Institute has already become a useful centre of statistical research which might be developed as a parent body for initiating and organizing statistical research. The existing statistical staff employed by the Government of India and such statistical

officers as are employed by the Provincial Governments should be absorbed in the central body of statistical research.

The Research Department of the Bureau will also have to be divided into a number of specific sections. We have already existing a number of separate institutions carrying on research in various directions. Thus we have as the most important of these institutions, the Imperial Council of Agricultural Research which has been substantially endowed by the Government of India. Besides the Council there are other agricultural institutes and colleges, about 23 of them, and also subsidiary research stations and farms, about 64 of them, and as many experimental farms, not to speak of district and demonstration farms. There are also 46 seed farms.

These figures are given to show that compared to the size and requirements of a country like India the number of these research stations and firms is very much inadequate. It will be one of the functions of the Bureau in its Department of Research to increase the number of such stations.

The other organizations of research at present existing are the Nutrition Laboratories at Conoor, the Bureau of Industrial Research affiliated to the Indian Stores Department, the All-India Bureau of Animal Husbandry, the Indian Lac Research Institute etc. Most of these institutions are doing good work but their work is not yet related to the purposes of a national planning scheme. Here also, in order to co-ordinate national research it will be necessary to make them co-operating parts of a general organization of research. In some cases the existing institutes will have to be remodelled and recognized, and in others, new institutions will have to be set up. We propose that the Department of Research of the Bureau of Survey, Statistics and Research should consist of the following sections, namely, agricultural research, animal husbandry research, nutrition research, research on health and hygiene including tropical diseases and epidemiology, scientific and industrial research, forestry and fruits research, educational research, historical research with particular reference to the preparation of a national history of India, and such other research organizations of which the need may be felt from time to time.

The entire scheme as envisaged above may be summarized in the form of the following diagram:—

NATIONAL ECONOMIC COUNCIL

Bureau of Survey, Statistics and Research

Department of Survey Department of Statistics Department of Research

Agriculture	Animal Husbandry	Nutrition	Health	Forestry and Fruits	Scientific & Industrial Research	River Physics	Trade & Commerce	Historical
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It is to be noted that these several sections and departments are to be treated as co-related in the sense that they are all expected to subserve the needs and requirements of the National Plan. Subject to these restrictions, however, each of these sections and departments should be treated as more or less autonomous units or entities, not only in regard to personnel and functions but also in regard to finance.

§ 2

THE COST OF THE BUREAU.

As regards the cost of the scheme, we must start with the hypothesis that the purposes of research would be defeated if we tried to be too economical in our expenditure on research. The only safeguard against the adoption of extravagant or utopian schemes is to have them scrutinised by competent authorities at different stages and finally to get them accepted, on the basis of the comments and observations made by these authorities and the remarks made by the Bureau itself, by the National Economic Council. In order, however, to make the safeguard doubly effective it may be further proposed to set up advisory organizations associated with each of the departments of the Bureau.

The next question that is to be considered is whether the Bureau should be financed by means of a statutory annual grant or by annual provisions in the National Budget in the usual manner. The former course seems to be preferable. Though it is not altogether free from defects, yet in spite of these defects, it will be desirable to free the funds sanctioned for research from the exigencies of the annual budgets of the Government. So far as can be foreseen, most of the schemes will require a number of years to be completed and it is essential that for these years there should be no uncertainty of the availability of the funds necessary to finance the schemes. In any case, the initial programme can be fixed up for a number of years, say, for the first five years, and the Bureau may start its work with a lumpsum grant for these five years. A grant of one crore of rupees, that is, Rs. 5 crores for five years, may be recommended as the amount of the fixed grant which the Government ought to provide for the financing of research. This, of course, will be in addition to the expenditure which the

Government have already to incur with regard to the existing research institutions and other cognate organizations maintained by them.

§ 3

PROVINCIAL BUREAUX.

In the foregoing paragraphs, the organization, function and financing of the Central Bureau have been discussed. It has been mentioned in Chapter IV that the Central Bureau should have its provincial counterparts. Since the Provincial Plans and the National Plan are to be definitely integrated, it is important that research also should be integrated in a similar manner. It should however be considered whether the Provincial Bureaux should act merely as the agency of the Central Bureau or should also undertake independent research. It has been suggested, for instance, that the National Plan should be based mainly on the Provincial Plans. A similar relation cannot for obvious reasons be fixed between the schemes of research financed by the Central Bureau and those by the Provincial Bureaux, that is, it will not be possible to make the Provincial Bureaux fix the schemes to be financed by the Central Bureau, except in regard to those schemes which may have to depend on central resources or which may be parts of a central scheme. When the National Plan has been fixed, the lines of research and of statistical investigations will also be more or less fixed. The Central Bureau, therefore, will have to determine the schemes which the National Plan may require. The Provincial Bureaux will in these circumstances act as the agencies within their respective areas of the Central Bureau where their agency may be required for the purposes of investigations. The Central Bureau may also transmit to the Provincial Bureaux concerned such schemes as may be of purely provincial interest. Naturally, for such schemes, the Provincial Government will be expected to make suitable financial provision.

§ 4

THE PERSONNEL.

The Central Bureau should have a personnel similar to that of a public services commission. They should be men of wide experience, trained in statistical work and having qualifications in economics, science and engineering. Their duties will be confined

mainly to considerations of a general nature in shifting and recommending particular schemes and in co-ordinating them. Only the Chairman need be a whole time official. The others, though appointed for a term, may be paid in the shape of fees for attending each meeting of the Bureau, together with travelling and halting allowances. In case of the Departments of the Bureau, however, the staffs should be whole time and salaried. There should be a Director in charge of each Department and a Deputy Director in charge of each Section. The main work will be conducted by Research Associates and Investigators together with Assistants who will do desk work as distinct from field work. These are of course only tentative suggestions and may be modified or adjusted in accordance with the manner and method in which the Bureau is set up and functions. Thus the problem of absorbing the personnel of the existing research institutions will have to be decided before the personnel of the Bureau itself be fixed. The whole scheme requires an administrative overhaul in respect of certain important departments of the Government and to that extent must be based upon the consent and co-operation of the Governments concerned.

CHAPTER IX

PLANNING OF POPULATION

§ 1

REASONS FOR PLANNING OF POPULATION.

The study of demography for the purpose of controlling the growth and distribution of population is an effort only of recent times. About a century and a half ago, an English clergyman startled the world by pointing out that the population of the world could only check its growth by the adoption of what he called "preventive checks", if it had to avoid being decimated by disease, epidemics, starvation etc. Since then there has been a vast increase of the world's population while at the same time there has been an increase in the amenities and comforts of life accompanied by a much greater control over disease and death. But the Malthusian ghost in the hinterland of civilization still haunts us in our thoughts and speculations. Even in the world as it is inhabited to-day, there are some 25,000,000 square miles with less than one person per square mile while there are more than 300 persons per square mile distributed over 2,250,000 square miles, these being the regions which are given to the cultivation of rice. If to these the other dense areas of the world are added, we come across the fact that about two-thirds of the people of the earth are crowded together over 7 per cent of its surface. Even in our own country, we come across the fact that the density of population varies from 6·5 per cent per square mile in Baluchistan to about 4,000 per square mile in some parts of the country. The variations in the density of the different provinces also show a large range, from 129 in the N.W.F. Province and 137 in Central Provinces & Berar to 442 in the U.P. and 616 in Bengal. In these figures—particularly in the fact of this precarious dependence of such a large proportion of the population on such a small proportion of area,—is to be found one of the reasons for the

rationalization of demographic factors. In India, we have an additional factor which would justify the adoption of a deliberate population policy for the sake of our future generations. We mean the heavily unbalanced distribution of the population as between towns and villages. It is a well-known fact of Indian economics that 89 per cent of the population of this country live in the villages and 11 per cent in towns, by town being meant an urban area with 5,000 persons per square mile. If we included as towns only areas with a population of 10,000 or more, then only 85 per cent of the population in India would be found in such towns. More than half of the population live in villages with a population of under 1,000 and about a third live in villages with a population of under 500 persons. A third reason why a "planning" of population is necessary in this country lies in the vital statistics of the country. Without entering into the question of whether the present population of India is excessive or not, a lowering of the rate of disease and death and an improvement of the general health of the population provides a platform on which there need be no differences of opinion. In short, the problem is not merely to find out the optimum population for India and its optimum distribution, but also to make the population healthy, strong and long-lived.

§ 2

ASPECTS OF THE PLAN.

Thus a Population Plan for India must be composed of the two following schemes :—

(1) Rectification of the maldistribution of the population as between different parts of the country and between towns and villages; and

(2) The adequate provision of health services both in the urban and the rural areas.

(1) The rectification of the maldistribution of the population inhabiting the different parts of the country involves on the one hand the extension of cultivation to areas which are culturable but have not yet been brought under the plough, and on the other a large scale development of industries. So far as the question of establishing a proper balance between urban and rural population is concerned, the problem has to be approached both from the point

of view of quantity and quality. From the quantitative point of view, we have the phenomena of an excessive percentage of the population living in the rural areas co-existing with those of the gradual depopulation of certain areas, and secondly, from the qualitative point of view, we are helplessly witnessing the exodus of talent and wealth to the towns. The question of a rural depopulation is a phenomenon not peculiar to India alone. It has assumed a more emphatic form in some of the countries of the West, and though, in India, we have to face a problem which may be regarded as the reverse of what the Western countries are facing to-day, we cannot ignore the qualitative depopulation of our Indian villages and its consequences, nor accept with any complacency the causes that compel such a vast majority of our population to live in the villages. As regards the development of industries, these will have to be carefully planned in order that there might be established a healthy relation between the products of the village and those of the town, and that it might help in a greater diversification of occupations, thereby reducing the existing preponderance of agriculture in the economic system of the country.

(2) The provision of health services must pay due regard to the requirements of the urban as well as rural areas. The following are some of the problems to be faced in this connection: a high birth rate accompanied by a high death rate; the frequent recurrence of epidemics; a needlessly high mortality from malaria and other preventible diseases; high mortality among infants; puerperal mortality; the poor expectation of life at all ages; pernicious social customs and practices like early marriage, the *pardah* system, indiscriminate giving of alms, and the like. The Population Plan must therefore have two aspects, namely, preventive as well as curative, so far as the formulation of a comprehensive health programme is concerned. While it is not necessary to minimise the curative aspect of the programme, it is obvious that the preventive aspect is more important, representing as it does a more fundamental attack on the problems of disease and ill-health. In fact, the two are intimately related. The mere provision of dispensaries and hospitals, or even free treatment for the poor, will be inadequate to meet the proposes of a full-fledged health policy for the country, that is, unless habits of cleanliness and of taking suitable precautions against ill health and disease become natural to the ways of living of

our countrymen. To that end there is necessity for persistent propaganda amongst the illiterate and the ignorant sections of the population. In other words, education in health and hygiene must form a fundamental part of a public health policy for India. Other preventive measures must include the adequate provision of nutritive food for the population, prevention of the adulteration of foodstuff and drugs, the establishment of Improvement Trusts for both urban and rural areas and the like.

These measures will of course take a considerable time to be fully effective. In the meanwhile the curative aspect of the health programme must be pushed forward with as much speed and efficiency as possible. The hospital accommodation for in-patients is woefully inadequate for the country. On the average there is only one hospital (or dispensary) for 41,000 persons. In the United Provinces, according to the Public Health Commissioner's Report for 1936, there was only one institution serving 75,000 persons, in Behar one for 59,000, in C.P. one for 49,000, in Bombay one for 45,000, in Bengal one for 37,000. In the rural areas, matters were still worse. In the United Provinces, there was only one institution for 124,000 persons, and in the Bombay Presidency, one for 104,000. No commentary is needed on these figures. On the basis of one hospital for at least 10,000 persons, we require at least four times the number of hospitals that we have at present in India. The requirements of the different provinces of India are of course not the same. From the figures quoted above, it seems that the United Provinces requires at least eight times the number of hospitals that it has at present. These figures refer only to the urban areas. In the rural areas, where matters are even worse, the number of hospitals and dispensaries needs to be vastly increased. It will perhaps be difficult to fix the number of hospitals on a population basis. The people in the rural areas live widely scattered from each other, and since it is essential that the nearest hospital and dispensary should be within easy reach, say, situated in such a way that no patient will have to cover more than a mile to get to it, the territorial distribution of the hospitals should modify, wherever necessary, the distribution on a population basis. These hospitals and dispensaries need not be expensive institutions. They should be more like First Aid institutions where preliminary attention and treatment could be given, the more serious cases being

reserved for the better equipped institutions in the nearest towns. It is needless to add that there should be suitable ambulance units to carry the patients from the rural areas to the nearest hospitals. Special arrangements should be made for dealing with outbreaks of epidemics. All this means that the expenditure of the Provincial Governments on Medical and Public Health Departments should at least be trebled.

So far as dealing with epidemics is concerned, besides the responsibility of the Central Government for conducting and promoting research, a Fund should be started on the lines of, say, the Famine Insurance Fund, started with a lumpsum grant from the Centre, and with an obligation laid upon the Provincial Government to contribute to the Fund annually a sum calculated at a stated percentage of the total revenues of the Province. A part of the Fund may be invested in developing and organizing a well-planned sanitary service for the rural areas. This service should include the provision of filtered water supply in every town and village, and of a well regulated drainage system in all congested areas.

Above all, there should be an unremitting propaganda for the training of the people into sanitary and hygienic habits. The last is of the utmost importance. For if hygienic habits are once inculcated in the minds of the illiterate and ignorant mass, they themselves will provide the necessary impetus for making the efforts of the public health authorities successful. On the other hand, if no steps are taken to inculcate such habits among the people, the efforts of the public health authorities can at best meet with indifferent success. It must of course be recognised that propaganda among people, the large majority of whom are innocent of the alphabets, will be somewhat more difficult than it is in a country where the population has a high degree of literacy. The idea of the propaganda should be to educate the people, independantly of whether they are literate or not. It has already been accepted that simultaneously with the introduction of free and compulsory primary education, a scheme of education for the adult should also be organized. The methods must of course be different in the two cases. While it is the aim of primary education to teach the three R's to the children together with such elementary training in a

vocation as may be adapted to the area concerned, the aim of adult education should be to educate through the eye and the ear, and the curriculum should include matters of general interest, history, geography, some knowledge of the administrative system etc. It is suggested here that health and hygiene should form an important part of such curriculum. It should of course be supplemented by such media of visual instruction as the magic lantern, the cinema and demonstration classes, together with such help as a system of rural broadcasting can offer.

§ 3

FACTORS OF THE POPULATION PLAN.

In the following section, the main lines of a Population Plan will be presented. A few words may, however, be said for a preliminary understanding of the Plan. From the observations that have been made in the preceding paragraphs it will be evident that a Population Plan cannot strictly speaking be a single homogeneous Plan. The intimate connection between vital statistics and demographic planning has been explained. In a similar manner, the rectification of the existing maldistribution of population will cut across plans of agricultural and industrial development. The close connection, for instance, between agriculture, rainfall, irrigation and density of population has frequently been dwelt upon by Indian economists and also in the decennial census reports. Naturally a transference of the population from areas which are supporting an excessive population to areas which can absorb the surplus requires the extension of cultivation to the latter areas. That there is much scope for such transference is shown by the fact that more than 150,000,000 acres of land represent culturable waste (other than fallow) in British India alone. The extension of cultivation, however, is dependent on various factors. The Census of India for 1931 has already mentioned the fact that in areas which are already densely populated, the pressure of the population leads it to the less profitable land. For instance, in Bengal, during 1921-31, the greatest rate of the increase of population has taken place in the Chittagong Hill Tracts and in Madras, in the Nilgiris. Similarly evidence has been given of the fact that the extension of irrigation has led to an increase of the population. Where the rainfall and the density are at balance, that is, where the population is dense and the rainfall just adequate

as in parts of the Punjab, the United Provinces and Central India, "irrigation has abated the liability to complete loss of crop, and improved communications have made it possible to prevent heavy loss of life in times of scarcity, thus enabling the population to increase on the margin of subsistence."* We have accordingly, to relate our Plan to the following two considerations, namely, that there is a huge area of land which may still be brought under the plough, and secondly, there is a large percentage of the population who are in need of work. The Census for 1931 records that in the agricultural and extractive industries the proportion of non-working dependants is as high as 56. The total number of non-working dependants is about 200 million persons. In other words the Plan must be definitely related to a policy of agricultural improvement. It will not be possible, of course, to transfer the whole of this surplus population from one area to another by the waving of a magician's wand. Agricultural labour is perhaps the most immobile of all kinds of labour. Nor is it easy to remove the shackles of age-long customs and superstitions by a mere stroke of the pen. An attempt therefore should be made to provide the idle population with work in their local areas as much as possible. This can be done by a careful regional planning of cottage industries complementary to agriculture. Population planning to that extent will have to be related to a policy of industrial development.

Another aspect of population planning is presented by what may be described as family planning. Some limitation to the size of the family is inherent in the problem of population with which India is faced. Economists have pointed out that the problem of population has a dual aspect in this country. On the one hand the real income of the population is increasing at a faster rate than the increase of population, and judged from the enormous resources, agricultural and industrial, that still await development, India is held to be able to support a much larger population than she is doing now. As against this view, it may be pointed out that future improvement will benefit the future population, not the present one. So far as the present population is concerned, we have all the evidence necessary to suggest the prevalence of a state of over-population. Hence the necessity of limiting the size of the family.

* *Census of India, 1931*, Vol. I, part I, p. 5.

Nor can be ignored the qualitative aspect of the planning of population. We are reminded in this connection of the fact that while there has been a qualitative deterioration of the rural population, the proportion of the educated unemployed is increasing in the towns and in the cities. In order that rural depopulation may be assessed at its true value, we have first of all to find out the optimum population that each economic region can support, and secondly, to call back talent and intellect for the purposes of rural reconstruction. This means that our rural areas should be made sufficiently attractive for the educated men and women to settle there. This, on its part, implies a comprehensive scheme of village improvement. The rural electrification schemes which are now being pushed in some of the provinces of India—for instance, in the Punjab, the United Provinces and Madras—provide an instance of what could be done to make life in the villages accord with the requirements of civilized men.

It will now be clear why we have spoken of a Population Plan as being dependent on other plans. It is dependent on the improvement of agriculture, extension of cultivation, provision of irrigation, development of industries, and a scheme of village improvement, accompanied by a large increase of health services.

This means that the authority for working the Plan cannot be a single well-defined authority, just as the Plan itself cannot be a single homogeneous plan. It is the different planning authorities working upon their respective plans who will have to deal each in its respective sphere with some aspect or other of the scheme of population planning. Since, however, the problem of population is intimately connected with the problem of the supply of labour, and since labour is, under the new constitution, a provincial subject, the organization that will have to deal with the growth and movement of population will have to work in collaboration with the provincial Ministries of Labour, and, in so far as the problem involves matters of inter-provincial concern, it may well be a wing of the Inter-Provincial Council to be set up under the Section 135 of the Government of India Act of 1935.

§ 4

THE PLAN.

Having regard to the foregoing observations, the actual plan may now be set forth as follows:—

(i) The density of population

In the European countries, a density of 250 persons per square mile is considered to be about the optimum that agriculture can support. We have already seen that, taking the world as a whole, the total area of the earth that is given to the cultivation of rice supports on the average 300 persons per square mile. A density of 250 persons per square mile works out at about 40 persons per 100 acres. Judged from this point of view* and on the basis of the present sown area, we find that in every province of British India there is an excessive density subsisting on agriculture. For the whole of British India, the density is 118 persons per 100 acres. Even assuming that the net sown area could be immediately doubled, there would still be an excess of about 40 persons per 100 acres. Unless therefore a system of multiple cropping be devised as part of agricultural planning, the standard of living of the Indian people cannot be raised to anything like the level of European countries on the basis of her own agricultural production, that is, without depending on the imports of agricultural produce from other countries. How the provinces of British India fare in this respect will be evident from the following Table:—

TABLE		
	Proportion of sown to total area	Population per 100 acres of sown area
Bombay	... 59 per cent	59
United Provinces	... 53 " "	135
Bengal	... 46 " "	216
Punjab	... 46 " "	86
Bihar	... 44 " "	167
C. P. & Berar	... 39 " "	63
Madras	... 39 " "	140
Orissa	... 31 " "	128
N. W. F. Province	... 27 " "	107
Assam	... 18 " "	135
Sind	... 16 " "	81
British India	34	118

*It must however be mentioned that this relation between the population and the area must not be taken to mean more than it does. The European standard of 250 persons per square mile is not a simple economic relation, for the terms population, area and productivity are heterogeneous terms. When, however, we speak, in relation to agriculture, of the "number of persons supported by consumption or sale of pastoral or agricultural products", the relation between population and area becomes, as Professor Bowley points out, a homogeneous relation and the figures become comparable and significant.

As a matter of immediate programme we may assume, instead of the Western standard of 40 persons per 100 acres, a density of 80 persons per acre for India as the practical ideal, in view of the fact that the standard of living in India is much simpler on account of climatic and other reasons. On this assumption we find that with the exception of Bombay and C. P. & Berar, all the provinces of British India show an excessive density. The worst case is that of Bengal, next to which comes Bihar. In the former province, the proportion of sown to net area available for cultivation is only 40 per cent but there is hardly any room for extending the cultivation in any considerable degree. As against a net area of about 23 million acres which is actually sown, the total area of culturable waste (other than fallow) is only about 7 million acres. Inclusive of the fallow lands, the total area available for cultivation, but not yet cultivated, is a little of 12 million acres. Assuming that the whole of this area is brought under the plough and on the basis of 80 persons per 100 acres Bengal can support only about half of her present density. In Bihar, following the same method of calculation, a density equal to three-quarters of the present figure would seem to be permissible; the same also is the case with the United Provinces. On the other hand, the present density of population in Madras (140 persons per 100 acres of sown area) seems to be about the correct figure provided all the cultivable lands are brought under the plough. That is also the case with Orissa. In all other provinces, there is room for an increase of the density. These are the provinces where the redundant labour from the other provinces can find employment or adequate sustenance. Too much emphasis need not, however, be placed on the necessity of internal migrations, for India is still a single economic area within which there is free trade and commerce. The food grown in one part of the country is available for consumption in another part. What is important is that there should be an increase of the area under cultivation, or in any case, of the output of agriculture by at least 50 per cent. Since the net additional area which can be brought under cultivation is about 30 per cent of the net sown area, and since in any case, it is not possible to extend cultivation over the whole of this additional area immediately, the only course left open as a matter of immediate policy is to take steps to increase the productivity of agriculture. No doubt the area under improved crops is increasing with the lapse of every year, but

the inadequacy of the attempts so far made will be evident from the following Table :—

TABLE*

1 Province	2 Total area sown	3 Area under improved crops	4 Percentage of (3) to (2)
Bombay ...	28,540,450	1,205,092	4.2
U. P. ...	35,906,808	4,957,700	13.9
Bengal ...	22,674,000	1,836,848	8.1
Punjab ...	27,462,134	5,065,600	18.2
Bihar ...	19,361,700	470,635 (a)	1.9 (a)
C. P. & Berar ...	24,301,398	1,843,237	7.4
Madras ...	30,970,132	1,549,289	5.0
Orissa ...	6,305,792	... (a)	...
N. W. F. P. ...	2,305,034	33,648	1.0
Assam ...	6,366,992	41,756	.06
Sind ...	3,785,322	351,816	7.4

(a) includes also Orissa.

The problem of the pressure of the population on agriculture in this country may be looked at from another point of view, suggesting a second line of action. For this purpose we may assume the proportion between rural and urban population as roughly reflecting the proportion between agricultural and non-agricultural population. What is the correct balance between rural and urban population has not yet been precisely determined in any country. Obviously the proportion will depend on the circumstances of each country. The old idea was that half of the people should live in the country and the other half in towns. This proportion obtains in Canada and also in the United States of America, France and Denmark. In Great Britain the proportion of rural to urban population is 1.5. The most interesting example, however, is that of Australia. In that country, the rural population is only 30 per cent of the whole and yet she produces not only sufficient food for the other two-thirds but actually produces exportable surplus of about 50 per cent of the total output from the land. The reason given is that the output per head of those engaged in agriculture is very high, perhaps the highest in the world. This is not so much because the yield

*The figures in this Table relate to 1934-35. The figures under column 2 are taken from the *Agricultural Statistics of British India*, and those under column 3 compiled from *Agriculture and Animal Husbandry in India*, 1936, part I.

per acre is high as because an agriculturist can cultivate many more acres in that country than in any other country. In India not only is there a surplus man-power which can be utilised for the purposes of production, there is, as we have seen, more than 150 million acres yet awaiting the plough. There is further the possibility of a large increase in the existing productivity of land. In any case, a density of 80 persons per 100 acres does not err on the side of excess.

(ii) *Irrigation*

The question of rectifying the existing disparities in the density of population is intimately connected with the question of extending cultivation over the areas which, though culturable, are not yet cultivated. This includes the question of extending the facilities of irrigation over a much larger area than at present. The utility and necessity of irrigation depends partly on the nature of the soil, on the amount of rainfall and the number of croppings. There are parts of the country which are facing the possibility of a serious agricultural calamity due to the fall in the sub-soil water level. Again there are certain provinces where agriculture would be impossible but for irrigation. Thus in Sind, 87 per cent of the total cropped area is irrigated. The percentage of the irrigated area to the total area varies from province to province. The following Table will show the percentage :—

TABLE

		Proportion of irrigated to total sown area
Sind	...	87 per cent
Punjab	...	55 " "
N. W. F. P.	...	44 " "
United Provinces	...	30 " "
Madras	...	28 " "
Bihar	...	23 " "
Orissa	...	17 " "
Assam	...	10 " "
Bengal	...	7 " "
C. P. & Berar	...	5 " "
Bombay	...	4 " "

The low percentage of irrigation in some of the provinces is not necessarily an index that those provinces require an extension of

irrigation. It depends on whether cultivation in those provinces is suffering for want of water. It may, however, be stated as a general rule that India requires a large extension of irrigation facilities in most of the provinces. It must be mentioned in this connection that irrigation does not imply any single type. In other words, different types of irrigation works are suitable to different regions and for meeting different problems. Thus embankments and canals are the two chief factors of irrigation and land improvement in India on account of the fact that a large percentage of the annual rainfall runs off the fields into *nullahs* carrying with it much fertile soil. Land reclamation which has been adopted as a matter of national policy in some of the countries of Europe (for instance, in Germany and Italy) might also be necessary to restore certain parts of the country to agriculture. This is particularly true in the case of most of the districts of North and Central Bengal. On account of the change of the course of rivers and certain other factors, there has been an invasion of the jungle where there were once smiling fields rich with crop. The invasion of the jungle has been followed by the invasion of disease which has put an effective check on the growth of population, and in some districts, has actually led to a loss of population. Yet in Bengal, only about 40,000 acres are irrigated. A hydro-graphic survey of such areas is called for. With the silting up of the natural waterways, the necessity of reclaiming the otherwise uncultivable lands by providing a net-work of irrigation canals has assumed some urgency. In short, if a well-balanced distribution of our agricultural population is to be aimed at, a vast impetus needs to be given to agricultural engineering for the purpose of devising a well regulated system of irrigation suitable to the needs of the different provinces. The question will be further considered in the chapters on Agriculture and on Power.

(iii) Industrial Development

The excessive density which agriculture has to support is due to the want of a diversity of occupations in the country. Far too many people have agriculture as their sole occupation, and large numbers of people who are not employed in agriculture have to remain idle for want of alternative occupations in the local area concerned. Even those that are employed are employed only for part of the year, the remaining period being one of forced idleness, for the reason

that agriculture is not possible throughout the twelve months of the year and because there is no subsidiary occupation to engage them during the idle months. Irrigation will be designed to meet the first difficulty. The second difficulty, that of the absence of subsidiary occupations, can be met only by adopting a well-planned scheme of industrial development. Since the planning of the population involves the task of relieving the pressure on agriculture in the congested and the less productive areas, it implies, firstly, the transference of population from the more congested to the less congested areas and, secondly, the provision of alternative means of livelihood for those who would be withdrawn from agricultural occupations or are unemployed. In either case, as suggested above, there must be a well-planned scheme of industrial development.

Such a scheme, which would be discussed in detail in a separate chapter, must include the development of large scale as well as small industries. A large mill, for instance, can feed a number of small industries. Thus a spinning mill can supply fine yarn such as cannot be produced by the spinning wheel to weavers working on handlooms as an occupation subsidiary to agriculture. The small industries themselves should be carefully planned. This should include a scheme of regional planning. The products of most of the cottage and small industries should have at least a provincial market and the location of these industries should be determined principally with reference to the sources of raw material and the availability of cheap power. Normally, those industries which may draw their raw materials from local or neighbouring areas should have the preference. In other cases, easy and cheap facilities of transport should be provided for transporting the raw materials.

(iv) Family Planning

The question of family planning is invested with peculiar difficulties. On the one hand, there are those who are led by the Malthusian fear of over-population and would recommend a limitation of the size of the family—if necessary, by artificial means. On the other hand, there are those who believe that it is bad policy to restrict the man-power of a State by artificial means. This view has been gaining currency particularly in Central Europe where (as in Italy and Germany) the encouragement of the large family has been adopted as a matter of State policy assisted by a scheme of

subsidy and income-tax relief. In India, the justification that the Central European States have felt for encouraging large families is lacking. On the contrary, due to the wide prevalence of the joint family system the average family in India is of a much larger size than in other countries. In a country where even beggars marry and have children, no special incentive seems to be necessary for increasing the man-power of the country. Actually, there is a case for a limitation of the family. Attention should also be paid to the age composition of the population. The main economic defect of the joint family arises from what is commonly regarded as its merit, namely, the co-operative protection that it offers to all members of a family against unemployment or under-employment. The actual effect of the system is perhaps seen in the large proportion of non-working dependants that the Census reveals. This economic loss can be prevented only if all adult members of the family are laid under the obligation to work, that is, if the "protection" afforded by the joint family is at least partially withdrawn. One must, however, proceed cautiously in such matters. The joint family is an ancient institution the foundations of which are rooted deep in our social and religious system. It might for instance be quite possible that the majority of the non-working dependants in any particular area are unemployed because there is no subsidiary occupation in the area and because they have no information about the opportunity of employment in other areas, whether as agriculturists or as industrial workers. It is therefore clear that if subsidiary industries are started or migration from the more congested area where work is not available to less congested areas where opportunities of employment may be created is organized with the assistance of the State, it is quite possible that after sometime the proportion of the unemployed will fall to a negligible figure.

One fundamental danger lies, however, in the constant liability of the population to run up to the means of subsistence if the standard of living is not adequately improved and safeguarded. A Population Plan that seeks to restrict itself only to the present may be set at naught by recurring "torrents of babies". Hence a limitation of the family seems to be called for. This can be done by educating the public into the significance of a scientific control of births. There may perhaps be abuses in the initial period, but the benefits that are likely to accrue will more than counterbalance the possible danger that might result from such training. At present it is not permissible to

propagate knowledge about the practice of birth control. If the birth control clinics are under the charge of capable doctors who will act as the instruments of a State policy, there need not be any fears about the misuse of the facilities allowed. In other words, population planning should include some control over the rate of growth of the population. Since with the progress of the science of healing and a general improvement in material prosperity, the rate of deaths is likely to fall substantially in the near future, a high birth rate will mean a rapid increase of the population which will seriously interfere with the execution of the plan. At present a high birth rate is set off against a high death rate, and of the high death rate infantile mortality contributes a substantial explanation. It is therefore proposed that birth control clinics should be established all over the country, particularly in the congested areas, in order to train the population in the use of contraceptives for the artificial limitation of births. These contraceptives should preferably be sold under a licence granted jointly by the State and the Medical Council, and should be issued only on the advice of a registered medical practitioner or of the appropriate medical and health unit set up in accordance with the scheme given below.

(v) *Health and Hygiene*

The planning of population will not be complete without an improvement of the quality of the population. By quality is meant not only the qualities of the head and the heart but also physical efficiency. Our aim should be not only to control the size of the population and its distribution but to make it healthy and long-lived. Disease like death means loss of national productive power. It is far better to have a small, but healthy and active, population rather than a large but sickly and short-lived population. Our vital statistics point to the urgency of solving the problem of health. High birth rates, high death rates, a staggering infantile and puerperal mortality, an abnormally low expectation of life at all ages, large incidence of preventable diseases—these give a picture of the miserable conditions relating to public health prevailing in the country. The problem is further accentuated by the want of medical facilities in the countryside.

If these problems are to be solved a nation-wide drive is necessary. The attack should be organized on the three following fronts :

(a) Research : Public health research should be organized on an all-India basis. Special attention should be given to tropical diseases, tuberculosis, leprosy, venereal diseases and to epidemiological researches. A separate sum should be set apart for financing propaganda on matters relating to public health and sanitation amongst the illiterate masses. This sum should be made available to the Provincial Ministries of Health which should each have a special department attached to it for the purpose.

(b) Increase in the number of hospitals, dispensaries, peripatetic medical units and the establishment of sanitary stations. The Provincial Ministries of Health should map out a chain of hospitals for the whole country situated in such a manner that no hospital covers an area of more than ten square miles or a population of five thousand. Further, in the area covered by each hospital, there should be peripatetic medical units so that each village may be visited at least once a day by one of these units. The sanitary units may be organized on the basis of the Bengal scheme. About 600 health circles are working in Bengal each with its complement of trained sanitary inspectors and a few assistant health officers. Examination of school children and investigation into all cases of the adulteration of foodstuff are among the duties of the Circle Sanitary Inspectors. With a well-planned scheme, these duties could no doubt be usefully multiplied. Each sanitary station could in fact be made into a centre of public health training and activity. It should have also its maternity section providing facilities for the training of *dais* and midwives. Non-official help might be enlisted through the establishment of rural Health Leagues which might usefully devote themselves to the following programme : the improvement of wells, springs and streams, from which water supplies are obtained ; the improvement of methods for sewage disposal, including construction of suitable latrines, cesspools and drains and the prevention of nuisances, such as the breeding of flies from insanitary practice ; the planning of suitable methods for the disposal of house refuse and manure, away from the vicinity of dwelling houses ; minor repairs to roads and drains and the filling up of all depressions and pits likely to act as breeding places for mosquitoes ; improved lighting and ventilation of houses and the lighting of the village itself ; the improvement of markets, cowhouses, bakeries

etc. and the protection of food exposed for sale, and the improvement of food and nutrition, for instance, by encouraging the villagers to grow vegetables and fruit and to increase the production of milk.

(c) The improvement of Nutrition : The importance of Nutrition Research has already been indicated. Dr. W. R. Aykroyd, Director of the Nutritional Research Laboratories at Coonoor has estimated that 2,500 calories per consumption unit may be taken as representing requirements per consumption unit in the Tropics and concludes that on this basis "the total food available is just sufficient to cover the minimum needs of the population, provided it is evenly distributed". His investigations were chiefly confined to the Madras Presidency but much of what he writes applies equally to the rest of India. In other words, India requires to increase the total available quantity of her food resources and to provide for an even distribution of the same. She also requires to increase her milk and dairy products. This means that sufficient land must be made available for grazing purposes. The Provincial Ministry of Health, in other words, should have a department associated with it for the purpose of conserving, developing and planning the food resources of the Province.

All these argue a tremendous increase in expenditure, both Central and Provincial, on public health and sanitation. At present the total expenditure of the Government of India on public health (1936-37) amounts to a little over Rs. 20 lakhs and that by the Provincial Governments together to about Rs. 150 lakhs. Of the latter sum, more than 50 per cent is spent to meet establishment charges, and the net grant available for public health purposes comes to about Rs. 45 lakhs in all the Provinces taken together, which comes to a little less than 3 pies per head per annum. Similarly the total expenditure on hospitals and dispensaries amount to a little less than Rs. 2 crores or about one anna per head per annum. These expenditures should at least be doubled as a matter of immediate necessity, though there would be scope for a further increase in the future as the scheme develops. Even if the expenditure is doubled, it would still be a poor sum per head of the population.

CHAPTER X

THE AGRICULTURAL PLAN

§ 1

COMPLEXITY OF THE PLAN.

In India, agriculture is carried on on such a vast scale and its problems are so numerous that to plan it with reference to any well-defined body of principles in which the various aspects of the subject should receive proper attention is almost a hopeless task. In other words, agriculture is not a well-defined activity. It consists rather of various groups of activities presenting problems of their own. Secondly, the problems are not the same in each Province. A complete Agricultural Plan will have to correlate these groups of activities and to fit them into the general scheme of the Plan. It is not difficult to see that these activities and problems are intimately related to each other, that is, they act and re-act on each other so that the policy adopted in relation to one has its repercussions on that in relation to the others, and in some cases, the policy with regard to some of the problems can not be fixed without reference to the cognate problems. Thus agriculture and irrigation are directly correlated ; so also are agriculture and the land system. Similarly the nature and size of the agricultural holdings determine in most cases the methods of agriculture. Further, as agriculture is concerned with the utmost utilization of the soil, the landed interests are concerned with the most profitable exploitation of their estates; thus in some cases, to take an instance, poultry farming, may be substituted for the raising of crops, particularly where the holding is too small for profitable agriculture. Dr. Pearson records from his own experience that with a holding of only 14 acres and with about 350 laying birds he succeeded in making a profit of £ 13 per

month on total receipts of £ 100 per month.* This example is given merely to show that agriculture touches on its margin various cognate activities.

§ 2

THE PRINCIPLES OF THE PLAN.

There are two possible points of view with regard to the formulation of an Agricultural Plan. One is to frame principles that will apply to and operate over the whole country and comprehend all the problems of agriculture. The second view, advocated by Professor Radhakamal Mukerjee † is based on the fact that it is impossible to bring about an economic offensive in all the villages even of a province simultaneously, so that a more practical plan of attack would be, first, (a) to concentrate on certain social and economical experiments in several selected areas with a considerable massing of men and materials such as are likely to create a revolution in the *morale* of the entire Province, and, secondly, (b) to select regions and areas where conditions of economic life are particularly unfavourable and where effective rallies must be made. In both cases he suggests that the units of mobilisation should be larger than a *tahsil* and the schemes and experiments may be co-ordinated together in a planned programme. The view taken in this chapter is that while a region should be the unit of mobilisation, it need not coincide with the administrative or revenue division, but should rather be a well-defined area having similar problems to solve; and, secondly, the regional plans themselves should be co-ordinated on an all-India basis. But the offensive must be on all fronts. It is only in this way that the inter-dependence of the various regions and the inter-relation of the various problems can be adequately recognized and allowed for. The provinces should no doubt have their provincial plans, inter-provincial problems being decided on an inter-provincial basis; while the Centre should concern itself with matters common to the whole country or in respect of which uniformity of policy may be desired or which are too costly to be effectively tackled by a provincial authority.

*Pearson: *The Growth and Distribution of Population*, 1935, p. 149.

† See his paper on "The Economic Planning of an Agricultural Region" in the *Indian Journal of Economics*, Vol. XV p. 588.

In short, the region must not be conceived of as an isolated area independant of the rest of the country. The debacle which has affected the jute growers of Bengal illustrates the point that I have in view. At bottom, it involves the question of finding alternative crops suitable for a particular area in case the usual crop is adversely affected for any reasons. In the last analysis it boils down to the fact that the growers require direction from time to time as to the most profitable crop that they should raise. Secondly, the problem may be approached from another point of view. It involves the question of planning the crops according to national needs. These needs include not only the needs of the population who require a certain amount of cereals for direct consumption but also those of industry which requires raw materials. In any scheme of planning it is with reference to these needs that the productivity of agriculture should be determined. Further it is also to be seen whether the present pressure on agriculture is at all desirable for the purpose of securing this productivity at its maximum. It has already been pointed out in Chapter IX that in Australia the rural population consists of not more than 30 per cent of the total population and yet this relatively small percentage of the population succeeds not only in feeding the entire population but in exporting about 50 per cent of the total produce from the land.

In India, we have to contend particularly against the following facts. We have first of all to determine the cereal requirements of the country with particular reference to the production of growing nutritive food crops. Secondly, we have to determine the requirements of our industries for raw materials, always providing a margin for the expansion of demand not only from existing industries but also from industries to be established in the near future. Thirdly, the exportable surplus to foreign countries should be fixed, and this surplus should be determined chiefly by means of trade bargaining, particularly in the case of the main exportable crops. Fourthly, the standard of living of the growers should be determined, and accordingly, the proportion between food crops and cash crops to be grown in any particular region should also have to be fixed.

The Plan should also have its organizational aspect. This requires an intelligent and sympathetic settlement of the agrarian question. Tenancy laws should be rationalized in such a manner

that the cultivator is enabled to retain the fruits of his own labour and his own investment. It requires also the imposition of a legal check on the progressive and indiscriminate sub-infeudation of holdings. Further, the systems of inheritance obtaining amongst both Hindus and Moslems should be modified, permitting, for instance, the eldest or any of the other heirs to purchase the shares of their other co-parceners. So far as the existing holdings are concerned, the Plan must suggest a suitable scheme of consolidation of the holdings. In so far as it presumes the definition of an economic holding the task is difficult. The size of the economic holding must be related to (1) the productivity of the soil and (2) the standard of living of the cultivator's family. In this connection it is difficult to avoid consideration of a revolutionary proposal. The socialization of land is not only a plank of confirmed socialists but is being seriously considered by thoughtful reformers of the land system. In fact it is difficult to see how a re-distribution of holdings so that the utmost utilization of land might be possible could be achieved without direct State intervention. The State can certainly make a beginning by reclaiming the culturable wastes and distributing and settling the population on the land and in forcing a system of collective or co-operative farming. So far as the existing holdings are concerned, an effort should be made for the voluntary consolidation of holdings but the groupings must be done in terms of the regional plan to be fixed by the regional planning authority. Compulsion should come in only when the voluntary method has failed or is likely to be ineffective.

The Plan must also provide for a suitable system of agricultural training and adult education. So far as agricultural training is concerned, the Plan must provide for different types of institutions required for the different stages of agricultural education. These institutions as classified at present include 'Rural Bias' schools, agricultural schools, agricultural colleges, institutions which provide for post-graduate training in agriculture, besides special short courses in different subjects such as horticulture, poultry, dairying, agricultural chemistry, oil engines and pumps, malt making, bee-keeping, jaggery-making, insect pests and diseases, and farm management. Fruit culture, fruit and vegetable preservation, sericulture, lac culture, manufacture of arrowroot, land development and irrigation farming also constitute some of the courses offered

at the different institutions and by officers of the Agricultural Departments. While the short courses should be related to the resources and requirements of the local area, the higher courses in agriculture should be planned with reference to the needs of the country as a whole. The main difficulties at present are the restricted scope of the existing institutions and the inadequacy of accommodation for the large number of applicants. The original aims of the colleges had been to equip the students for the scientific cultivation of their own lands or that of others, and to train the staff for the Agricultural Departments. Actually, as the Royal Commission on Indian Agriculture pointed out, an overwhelming proportion of the students enter or want to enter public service, and only a few enter the colleges with the object of becoming practical or gentlemen farmers. So far as adult education is concerned, little progress has been made. In the United Provinces the co-operative method has been applied with some success. The chief aim of the U. P. schools on the agricultural side has been to make the cultivator better fitted to adopt improvements in the methods of agriculture. Adult schools continue from two to three years after which they are converted into village reading clubs. The recent drive (1939) of the U. P. Government must also be noted. In a country of poor public revenues, it indicates a very useful line of approach.

The most important part of the Agricultural Plan will be that relating to the regulation of price and the marketing of the produce. Both of these are highly complicated problems. The problem of marketing requires, for instance, the question of establishing regulated markets, the elimination of the parasitic intermediate interests, laying down of the standards of grading, weights and measures, provision of the facilities of transport and storage, regulation of the trading in futures and the like. The question of price regulation presupposes the establishment of well regulated markets and the co-ordination of the existing distributive systems. The question of price fixing is complicated by the fact that almost every farm produce in India is sold at varying prices at a given time as well as over a period of time. A uniform price level ruling at the different wholesale markets in different parts of India for the same commodity has yet to be established. Again, the grade standards

also vary in different parts of the country. The same commodity includes a number of varieties differing from one another in quality so that instead of one market price we get a series of market prices which are inter-related. A striking feature of the Indian price systems is that presented by the sharp disparities in wholesale prices as compared to the relative stability of the retail prices. In some cases it has been found that the retail prices are actually lower than harvest prices.* To some extent it reflects the weak position of the growers who suffer as much from lack of organization as from lack of information. It is also determined partly by the relationship between acreage and prices. An increase of acreage is usually followed by a decline of prices, whereas a decrease in the acreage is followed by a rise of prices. Finally, we have to consider the question of the cost of transport. Thus in the case of essential food crops, the transport charges should be so regulated that the prices of these crops might be within the reach of the poorest class of the population wherever they may be situated. A price policy must also aim at fixing a proper balance between cash crops and food crops. A rise in the price of the commercial crops, for instance, might help in releasing a sufficient area for the growing of food crops.

The question of the size of the agricultural holdings must also be satisfactorily solved before the Agricultural Plan can be implemented. As Dr. Radhakamal Mukerjee observes, "The crux of economic planning centres round the problems of the prevention of fractionalization and scatteredness of holdings."† He points out that economic planning is impossible where the holdings are so much undersized as in India. It follows that the consolidation of these holdings should be a first task in the planning of agriculture. It was long ago that Mr. Keatinge had expressed the opinion that "the agricultural holdings of the Bombay Presidency have to a large extent been reduced to a condition in which effective cultivation is impossible," while Dr. Slater found similar conditions in Madras. More recent enquiries in the Punjab, Bombay and Madras show that there is a considerable number of holdings under one acre.

*Professor S. R. Bose: *A Statistical Study of the Prices of Foodgrains in Bihar & Orissa, 1861-1934.*

† See Article on "Economic Planning of an Agricultural Region" in the *Indian Journal of Economics*, 1935, p. 590.

Dr. Harold Mann recalls that in the pre-British days and in the early days of British rule, the holdings were usually of a fair size, most frequently more than nine or ten acres while individual holdings of less than two acres were hardly known. At the time when he wrote, the number of holdings, he found, had more than doubled and 81 per cent of the holdings were under 10 acres in size, while no less than 60 per cent were less than 5 acres. The evil has undoubtedly been intensified since then. As long as the present law of inheritance continues and land is called upon to support an increasing pressure of population the evil will continue. Fragmentation of holdings, however, is not due to the law of inheritance so much as to the manner in which the land is subdivided. The evil of fragmentation can be realized from the fact that in a Punjab village an owner was found with his land in 200 different places while there were five owners with over 100 lots each. Fragmentation becomes a real evil where the soil is of uniform quality or where the differences in quality are not very great. But where the soil varies markedly in quality, moderate fragmentation finds defenders, for in such a case each holder secures land of different qualities and is therefore in a position to produce a greater variety of crops and to find occupation for more days in the year than he could on a compact homogeneous block.

The solution of the problems of sub-division and fragmentation is a baffling question. Right to ancestral land is regarded as something more than an economic right. Attachment to ancestral property has a sanctity which has defied the working of economic principles for several generations. The break-up of the joint family system and the gradual infiltration of western economic ideas are steadily inducing a new attitude towards land. There has been a drift towards the town because the ancestral holdings have proved uneconomical. The time seems to be ripe for introducing at least permissive legislation to provide for the consolidation of holdings with the co-operation of the cultivating tenants, the tenure-holders and the ultimate landlords. If it is considered inadvisable to interfere with the law of inheritance directly, legislation might provide for the right of the eldest or of any other heir to buy off the others in order to facilitate the consolidation of the holdings. An element of compulsion may be introduced if it is found that on account of the recalcitrance of one or two

members of the family or group the scheme of consolidation cannot be given effect to. Laws providing for compulsion under such circumstances are already in force in countries like Japan. Some of the Indian provinces too have adopted such laws. Law can help in another direction, that is, by fixing the size of the impartible estate. The size of the impartible estate should never be less than that of the economic holding for the area concerned. Since the size of the economic holding will vary from area to area, the size of the impartible estate should be decided by the planning authority of the area concerned after taking into consideration all the relevant facts bearing on the question. The financing of the schemes of consolidation might be done by the issue of mortgage bonds or through land mortgage banks.

Lastly, the question of land tenure should receive attention. The prosperity of agriculture depends in no small measure on the proper relation between the landlord and the tenant on the one hand and that between the tenant and the land on the other. In India there are three main types of land tenure. The ideal type seems to be a land system under which the community becomes the owner of the lands in the area concerned subject to the payment of revenue to the Government fixed for comparatively long periods after which variations should be allowed only on specific and reasonable grounds. It may be recalled in this connection that India had in ancient times a very well-developed system of communal democracy which, as the tradition is native to the genius of the people, could with a little effort be revived, adapting it to the changed circumstances of to-day. In particular it is to be noted that the zamindari system has outlived its usefulness. I must not be understood to mean that the zamindari system has been an evil institution with us ever since its inception. Bengal owes much of her culture and prosperity to the generosity, munificence and large-heartedness of successive generations of zaminders. What I suggest is that with the progress of enlightenment a chain of functionless landlords have not only provoked grave social unrest and revolutionary programmes but have been sapping the vitality of our agriculture. There is of course no doubt that for some time yet to come the tenants will continue to stand in need of guidance from above, whether at the hands of the zaminders or of the Government. The question to be decided is whether, and if so, to what extent, the

tenants are in fact receiving such guidance. Here lies the crux of the question. Most of the zaminders have little contact with the cultivators. They are either absentee landlords or separated from the cultivators by three or four stages, if not more, of intermediate interests due to the sub-infeudation of land. Their role is that of functionless rent-receivers. The Government too have not done much to ameliorate the condition of the agriculturists except in a very indirect manner and to a very limited extent. A scheme of land reform must therefore include either the rationalization of the zamindari system where it prevails and the substitution of functionless intermediates by a class of gentleman farmers who would not only have the necessary training in agriculture but would be willing to settle down in the actual work of directing the cultivation in accordance with rational, scientific and improved methods, or the abolition of the system. It is of course presumed that by the improvement of conditions in the rural areas and by the proper dissemination of agricultural knowledge and training, it would be possible to attract educated men back to the village and to the soil. Those who may find themselves divorced from their holdings should also find no difficulty in turning to alternative means of livelihood such as a reconstructed and well-planned economic system would offer. The main idea should be to create a body of gentlemen farmers actively interested in the land and to transform the existing body of functionless parasites into useful members of the society.* This means that agriculture must get rid of the parasitic intermediate tenure-holder as well as intermediate ryots whose only role seem to be to intercept the profits from land without discharging any corresponding functions. The aim should be to see that the maximum proportion of profits

*We may in this connection refer to what a careful student of the agrarian problem in Bengal has to say about the recently passed Bengal Tenancy (Amendment) Act: "It is therefore sad and tragic to find that even in 1937 the reformed Government of Bengal with pretension of popular well-being reflected in the legislature has taken the existing Tenancy Act as the basis and has dotted here and omitted there with the professed purpose of transference of certain powers from one class of functionless intermediaries among landlords to the other class of functionless intermediaries among ryots. There was no attempt to improve the available resources of production or the efficiency of production without which the problem of agricultural deterioration and distress, which is the mother of social discontent and unrest, will remain undermined and untouched." Mr. Sachin Sen : *Fundamentals of an Agrarian Programme*.

It may be added that Mr. Sen is also an uncompromising critic of the Congress Agrarian Programme as envisaged in the famous resolution of the Faizpur Congress (1937) and the Congress Election Manifesto, 1936, relating to its agrarian programme.

are invested in the improvement of agriculture. In order that this might be so, it will be necessary to saddle the farmers and cultivators with clearly specified obligations corresponding to their rights, and the continued holding of the lands should be subject to the due discharge of those obligations. The entire agricultural region should be subject to the supervision of a Committee composed of all the permanent right-holders of the area concerned which should have cognizance of all the agrarian disputes in the area and of all matters relating to the execution of a peaceful and constructive agrarian programme.

§ 3

THE PLAN : ITS AIMS AND OBJECTS.

In the preceding section the main principles governing the agricultural plan have been indicated. The outline of the Plan may now be set forth. The Plan may be considered from the following two aspects, namely, from the point of view of its aims and objects and from that of the organization of the planning authority.

The following should be the main planks of the Plan :—

(i) An agricultural survey of the region which should include the full survey of the cadastral records and all categories of rights in the land, and of agricultural resources.

(ii) Planning of crops : This should be done on an all-India basis, though naturally the Plan will have to be based on the materials supplied by the regional surveys ; planning of cereals, commercial crops and agricultural exports.

(iii) Determination of the economic holding and of the size of the impartible estate ; re-distribution and consolidation of the holdings.

(iv) Modification of the laws of inheritance ; permissive legislation for the consolidation of holdings by giving the eldest or any of the other heirs the right to purchase the shares of the rest in the ancestral property, such legislation to incorporate, if necessary, the principle of compulsion in order to aid voluntary consolidation.

(v) Provision of suitable agricultural training and adult education.

(vi) Provision of marketing facilities and regulation of grades and standards ; establishment of regulated markets including forward markets ; proper dissemination of agricultural intelligence ; regulation of prices by the control of acreage and provision of licensed warehouses.

(vii) Regulation of freights on agricultural produce (including raw materials as well as foodstuffs).

(viii) Modification of tenancy laws ; abolition of intermediate interests ; re-settlement of lands and holdings ; the rights and obligations of the ryots and farmers to be re-defined.

(ix) Introduction of improved methods of cultivation and irrigation ; agricultural engineering : improvement of cattle.

(x) Rural industrial employment.

(xi) Improvement of village.

§ 4

THE PLAN : ENQUIRIES AND SURVEYS.

Before the organization proper for carrying out the Plan is set up, a number of enquiries and surveys must be completed. These enquiries and surveys should be conducted by *ad hoc* committees or commissions of which the following may be suggested :—

1. A National Nutrition Commission :—The Bureau of Survey, Statistics and Research should conduct a survey of our nutritional requirements as well as existing deficiencies, and should also conduct researches into the food values of our different crops together with the possibility finding out cheap substitutes. The result of the survey as well as of the researches might form the basis on which the Nutrition Commission might frame their recommendations for the planning of food crops and for the improvement of national dietery.

2. Marketing Surveys :—These also should be conducted by *ad hoc* committees, there being as many committees as there are important crops for which a marketing survey might be deemed to be necessary.

3. Tenancy Commission:—This should be something wider in scope than a purely Land Revenue Commission. The object of the Commission should be to rationalize the whole basis of tenancy in India with particular reference to the question of sub-infeudation. Its terms of reference should include the question as to how best to expropriate, or reduce to the unavoidable minimum the number of, the intermediate interests with the least disturbance of the existing social order. It should also define the rights and obligations of the several classes of tenants and prescribe the manner and method of employing the educated men of the province in active agricultural pursuits. The Commission should also make recommendations as to how best to reform and reorganize the systems of tenancy for the purpose of securing the best and most economical utilization of land and for improving the relations of landlords and tenants.

4. There should also be a Rural Industrial Commission for the purpose of investigating the question of setting up rural industries. This Commission should work in close association with the National Board of Industries.

5. Crop Planning Conference :—An annual Conference should be organised on the lines of the Conference that was called at Simla in 1934 but with more comprehensive terms of reference. This Conference should of course be held on an all-India basis. It will be the business of this Conference to suggest ways and means for extending cultivation wherever possible or necessary and to regulate the growing of both cash and food crops. The All-India Conference should work through Provincial Conferences and regional committees, and its recommendations should be based, among other things, on the requirements of trade planning.

6. Rural Education Commission :—The purpose of this Commission should be to organize agricultural education and adult education in each of the regions concerned. There should be a Central Commission which would lay down the general principles of such education which might be adopted and applied by the regional committees.

7. Village Improvement :—This subject will be considered in detail in a subsequent chapter.

§ 5

THE PLAN: ORGANIZATION.

While the above mentioned Committees and Commissions will have the duty of conducting specific enquiries and surveys, they will provide the raw materials for the policy to be framed by the planning authority. In considering the question of setting up such an authority in relation to agriculture it must be remembered that agriculture is a provincial subject. There are, however, certain matters relating to agriculture which are obviously of an inter-provincial or all-India character. For a proper regulation of such matters a Central Authority will be necessary. In regard to matters exclusively of provincial interest we have to recall the principle that the Central Plan must ordinarily be based upon the recommendations of the provincial authorities. It is therefore suggested that there should be a Central Board of Agriculture with the following subsidiary Boards, namely, Boards dealing respectively with the problems of Nutrition, Irrigation and Agricultural Power, Animal Husbandry, Forests and Fruit Culture and Commercial Agriculture. The Central Board should be concerned mainly with planning and research, while the Provincial Boards should be charged with the duty of executing the plans within their respective spheres. The Province itself should be divided into a number of regions which should be determined by the Provincial Board. These regions should be the bases of agricultural planning. Each of these regions should have a committee. The constitution and functions of these regional committees might be fixed on the lines of the Taluk Development Associations of Bombay which owed their origin to official initiative in terms of a Resolution adopted by the Local Government in 1922. The Royal Commission on Indian Agriculture commend the setting up of such associations, modified, where necessary, by local variations. Thus they remark, speaking of Bombay, that "where such Associations exist they have taken over the work formerly done in the taluk by agricultural associations, co-operative development committees and similar bodies. Membership of an Association is open both to co-operative societies and individuals who are willing to pay a small subscription. The Associations are mainly deliberative bodies which meet two or three times a year to appoint office-bearers, sanction the budget and

approve the programme of work. The execution of the programme is entrusted to the Secretary and a small Working Committee of which two members are representatives of co-operative societies in the taluk. The main object of the Associations is the demonstration of improved implements, improved seed and manures The funds required for the work of the Associations are provided by a capital fund raised by annual subscription from co-operative societies, individuals and villages as a whole and by annual grant from Government which is equal to the income from other sources up to a limit of Rs. 1,000." In the scheme of planning envisaged here, these associations or regional committees will no doubt have somewhat extended functions. But they will have the guidance of the Provincial Board ; and one of their functions will be to carry out crop experiments as well as experiments in dairying and stock raising, for which purpose each of the associations should have at its disposal a demonstration farm. This farm may be operated as a model farm to the region concerned, with its full complement of trained workers. The committees will also have the duty of executing the policy and the programmes laid down by the planning authority within their respective areas. In addition they should each have an agricultural meteorological station and a dairying farm attached to it wherever suitable or necessary. The need for a more active interest in agricultural meteorology is explained in the next chapter. The financing of these committees should be met out of a special charge on the landlords, tenure-holders, or the village community as a whole or the Government as the case may be.

A reference to the co-operative organisation may not be out of place while considering the question of agricultural associations. The time has come for a complete overhaul of the co-operative movement in India. Even a man in the street will suspect that there must be something radically wrong with a movement which after a history of 35 years has not been able to draw within its fold more than 5 per cent of the population. Yet we cannot deny that even the limited assistance which it has been giving to the agriculturists has been of great value where every agriculturist is born in debt, lives in debt and dies in debt. If the problems of the accumulated debts and of long term finance are solved and the co-operative banks are confined to the duty of providing

short and intermediate-term finance, the movement can yet be rescued, with a little state help, out of its present stagnation. This will also enable the re-constituted co-operative banks to link themselves up to the centres of high finance. As regards the liquidation of the ancestral and accumulated debts and the provision of the needs of long-term finance, special mechanisms will be necessary for the conciliation of debts together with a simple rural insolvency procedure for writing off bad debts. The whole question of agricultural finance will be discussed in a separate chapter.

It may be mentioned here that the composition of the regional committees should, as far as possible, follow the co-operative principle. It is essential, in fact, that regional activities should be based on the voluntary effort and services of local people. The planning authority should direct the Provincial Governments concerned to lend the services of a trained personnel for technical as well as administrative purposes. These committees should also receive substantial grants or subventions from the Provincial Governments for the maintenance of demonstration farms, for capital equipment, for conducting specific experiments and enquiries and for publicity and propaganda. So far as propaganda is concerned, rural broadcasting will offer a useful medium.

One important result of these committees being based on the co-operative principle will be that it will identify the national energy in its primary form with the most important aspect of national planning. The co-operative organization of these committees is proposed, further, on the ground that a nucleus already exists in the shape of the existing co-operative societies. Reference is made not so much to the credit societies as to the non-credit institutions, such as land reclamation societies, irrigation societies, better living societies and the like. The co-operative regional committees will offer a focussing point of the efforts of these societies. They will infuse life where decadence has set in, and thus serve a double purpose. These committees, in short, will offer a point—a vital point—in the whole complex of planning where the co-operative movement, now moribund, may be made to fit in, re-vitalised.

CHAPTER XI

IRRIGATION AND AGRICULTURAL POWER

§ 1

EXTENT AND FORMS OF IRRIGATION WORKS.

The problem of irrigation in India is of vital importance on account of the disastrous effects which might follow a general failure of the monsoons. "Water is the first condition of agriculture in India," observes Dr. Pillai, "and the area where the chances of serious drought are remote is confined to Bengal, Assam, Burma and the coastal strip from Surat to the extreme south of the Peninsula. Elsewhere droughts are much more frequent than perhaps in any other agricultural country. There is yet an area of nearly a million square miles which are not safe against the uncertainties of the seasons and the risks of famine."* We have seen how irrigation improves the productivity of soil. In certain provinces, and in the case of certain crops such as sugar, there would have been no cultivation but for irrigation. Artificial irrigation is also a necessity for the successful cultivation of the more valuable crops. Thus, for instance, the irrigation canals of Northern India which turn to productive use the waters of the Indo-Gangetic system rank among the greatest and most beneficent triumphs of engineering in the whole world. The United States Bureau of Reclamation gives the following figures about the area of irrigated lands in different parts of the world in acres:—

TABLE

Country	Acreage irrigated	
India	...	50,000,000
U.S.A.	...	20,000,000
Russia	...	8,000,000

*Pillai ; *Economic Conditions in India*, p. 56.

Country		Acreage irrigated
Japan	...	7,000,000
Egypt	...	6,000,000
Mexico	...	5,700,000
Italy	...	4,500,000
Spain	...	3,500,000
France	...	3,150,000
Java	...	3,000,000
Chile	...	3,000,000
Argentina	...	2,000,000
Siam	...	1,750,000
China	...	1,000,000
Australia	...	1,000,000

It will be seen that India has still the largest acreage irrigated in the world. Of the total cultivated area of 280 million acres in the whole of the country, no less than 60 million acres (1937) are annually irrigated on the average from one source or another. Of this area, 30 million acres are irrigated from canals, 15 million from wells and 15 million from tanks, streams and other sources. Agriculture in the Punjab and Sind and also in a large area of the United Provinces depends on the canals, while in the rest of the United Provinces, Central Provinces, Bihar and Bombay, irrigation from tanks and small lakes plays an important part. "Some of these works amount to minor canals fed by storage reservoirs on small rivers or by barrages at the necks of mountainous catchment areas. The traditional skill in the management of some of these small water-supplies is perhaps seen at its best in mountain rice cultivation where a small hill stream is successfully trained to feed successive terraces covering several hill sides with a range of elevation of perhaps a thousand feet or more".* One characteristic feature of Indian irrigation is that presented by the wells. These cover a total area of 15 million acres. Many of these wells are small and yield not more than 800 gallons per hour so that even a comparatively light irrigation means something like 60 hours work per acre. The lifting of water from these wells is done by bullocks. Usually a leather bucket is hauled by a rope over a pulley and drawn by bullocks walking down a slope. In many cases the water lifts are the Persian wheel and its various adaptations. Where the

*Sir Bryce Burt : *Agriculture and Animal Husbandry in India*, paper published in the *Field Sciences of India* (1937).

wells are larger, small oil engines and centrifugal pumps are employed.

Of the total area irrigated in India in 1935-36, about 47 per cent was irrigated from Government Canals, about 7.7 per cent from private canals, about 25 per cent from wells, about 12 per cent from tanks and about 10 per cent from other sources of irrigation. Of the total area irrigated, the Punjab accounted for 29 per cent, the United Provinces 21 per cent, Madras 17 per cent, Bihar 9 per cent and Sind 8 per cent.

Thus we have three different types of irrigation works—storage works, wells and canals.

Storage irrigation schemes are particularly useful where there is a shortage of rainfall during the dry season and rivers also dry up. In Bengal, in the western parts, storage works have assumed great importance. Thus the Dakeswar-Reservoir project is expected to irrigate about 200,000 acres while the More Reservoir project is calculated to irrigate 432,000 acres. Storage works, by impounding during the floods and supplementing the dwindling daily flow of the rivers during periods of scarcity intervening between floods, as in Bengal, really function like a flywheel in an engine. They increase the irrigable capacity of a stream enormously, especially as the stored water is needed for irrigation not so much in the transplantation season, when though a large amount of water is required the rainfall is usually sufficient, but in the latter part of the crop period when the requirements of crops are the minimum. These storage works are necessary in Bengal as owing to the proximity of the catchment areas of the delta-building rivers to the areas to be irrigated, river supplies also fail when irrigation is required during periods of scarcity.

The wells constitute an effective protection against an early cessation of the monsoon and thereby prevent a restriction in the area sown under the *rabi* crops. Again when there is a natural deficiency of moisture at the proper season during the different stages of the growth and maturity of the crops due to the failure of the rains at the proper time, the wells mitigate the effects of such a deficiency. Moreover well irrigation has been a great protection to the late rice crop and the *rabi* crops in general when a failure of winter rains threatens the outturns of these crops. The relative advantage of well

irrigation compared to tanks and canals is that the latter sources fail in a year of deficiency of rainfall. Wells, however, offer a more elastic source of supply of water. They are particularly suitable as a second line of defence in those regions where artificial irrigation is not necessary in normal agricultural seasons. In such areas, canal irrigation or tanks would become an uneconomic investment.

It is obvious that the area irrigated from canals, reservoirs and wells depends upon the price of agriculture produce and the extent to which other sources of irrigation are available. For instance, when the price of agricultural produce falls, the incidence of irrigation rates goes up and it does not pay to take water from the canals, or reservoirs. The wells then come into service.

While there has been a considerable development of well irrigation in the Eastern and the Central Gangetic Plains, the Western Gangetic Plain has depended more on canal irrigation. Speaking of the United Provinces Dr. B. N. Ganguli* has testified to the remarkable increase in the irrigated area in all the districts which have been brought under the canal system. He points to the fact that canal irrigation in the United Province has not been confined to the arid tracts which had no means of irrigation but has also extended into the tracts served by wells which have to that extent been superseded by canals. But even now there are large arid tracts in this region which are still out of reach of the canal system. In those tracts, the percentage irrigated to total cultivated area is much lower than in the Central and Eastern Gangetic Plain. In this respect Dr. Ganguli calls attention to an obvious defect in the development of the canal system. He points out that a mere replacement of masonry wells by the canal system may lead to a defective system of irrigation. Even in those districts, he points out, which have been brought within the canal system, well irrigation is indispensable in the case of land near the village sites as well as in the outlying tracts. The rise of the spring level, however, has to a great extent increased a difficulty of constructing masonry wells. "Hence it is obvious that canal irrigation would have produced the most desirable

*Dr. B. N. Ganguli: *Agriculture and Population in the Ganges Valley* (1938), pp. 77 ff.

results and ensured greater agricultural protection on the whole, if it had supplemented well irrigation and development mainly in the arid tracts where the agricultural water supply derived from wells and other sources is totally deficient. But this principle has not been followed, and the mere replacement of well irrigation by canal irrigation has been clearly an economic waste.”* In fact Dr. Ganguli thinks that the proper irrigation policy for the western Gangetic Plain should be to rely more and more on well irrigation. A consistent pursuit of this policy is, however, subject to certain limitations. In the first place, the sinking of masonry wells in this region, as already pointed out, is difficult. The disadvantages in respect of meteorological conditions and the deficiencies in respect of the physical and chemical conditions of the soil are also factors which ultimately determine not only the agricultural productivity but also the agricultural security of the different natural regions of the upper Gangetic Plain. “The eastern and central portions of this region,” observes Dr. Ganguli, “enjoy inherent natural advantages which have increased agricultural productivity and have created more stable conditions of agriculture by facilitating development of elastic and unfailing sources of artificial irrigation. The western portion of this region, on the other hand, is more susceptible to fluctuations of rainfall, and the natural disadvantages from which this region suffers have hampered the development of well irrigation on sound lines.”† He concludes from these arguments that the geographical distribution of population in the upper Gangetic Plain depends essentially upon the facilities of agricultural water supply, and these are, again, determined by the meteorological conditions and the physical and chemical conditions of the soil.

*Referring to the remarkable expansion of the irrigated area in the western Gangetic Plain, Dr. Ganguli observes: “Such remarkable expansion of the irrigated area obviously meant that extensive areas of dry waste land were brought under cultivation, and the tracts indifferently served by wells began to be intensively cultivated owing to plentiful supply of canal water. Moreover, development of canal irrigation has increased agricultural productivity, not only by calling forth full powers of the soil supplying sufficient moisture to-day, and thus increasing outturn of the crops, but also leading to substitution of valuable *rabi* crops like wheat, maize and sugar-cane for the inferior *rabi* crops like barley, juar, bajra and gram.” *Ibid* p. 78.

†*Ibid* pp. 84-85.

§ 2

VALUE OF IRRIGATION WORKS IN INDIA.

The utility and necessity of irrigation depends partly on the nature of the soil, on the amount of rainfall, and the number of croppings. It also depends partly on whether it is productive or protective in its nature. This used to be the classification formerly used for official purposes. The productive were those that were regarded as financially remunerative. The protective works were those which were regarded as an insurance against famine. With irrigation as a provincial subject this classification has been substituted, since 1922, by that of productive and unproductive. But the idea of the protective character of certain works still lurks in the public mind. Indeed the point cannot be disputed that irrigation has an important protective function in a country whose wealth depends primarily on agriculture and where so many millions subsist on agricultural operations. In a country where rainfall is concentrated during certain months of the year, agricultural operations have necessarily to be confined to a portion of the year. In so far as irrigation makes a regular supply of water in adequate quantity available for purposes of cultivation, it enables agricultural operations to be continued throughout the year, and with a suitable rotation of crops it can do it without any undue exhaustion of the fertility of the soil. The necessity of irrigation appears from another point of view. Speaking at the Centenary of Malthus at Lucknow in 1935, Dr. Radhakamal Mukerjee drew attention to the fact that the Malthusian law of diminishing returns was also operating by water which had become the limiting agent in agricultural development in considerable areas, for instance, in the Muttra-Etawah region, due to the fall of the sub-soil water level.

Thus the value of irrigation to an agricultural country like India cannot be exaggerated. The history of ancient civilizations is often found to have been bound up with the history of irrigation works. Many ancient countries had developed highly perfected systems of irrigation in the hoary past, traces of which still remain to remind us of the glory of these works. India was no exception, and the wonderful irrigation systems in the south of India have in more than one case fixed the modern system adopted in those areas. Even in Bengal, as the late Sir William Willcocks, one of the

foremost irrigation engineers of the world, observed, "the ancient irrigation of Bengal combated Malaria, provided an abundant harvest of fish, enriched the soil and made congestion of the rivers impossible."* That ancient system, Sir William pointed out, was based on "overflow irrigation." This is worked by canals which are broad and shallow, carrying the crest waters of the river floods rich in the fine clay and free from coarse sand. The Government acting on the recommendation of the Damodar Committee in 1855, took over the embankments and made them water tight. Shortly after this date, as Sir William observed, poverty and Malaria became rampant.

In 1931, the Government of India set up a Central Bureau of Irrigation as an essential adjunct of the Central Board of Irrigation, for the purpose of the exchange of ideas and experiences. The scientific aspects of irrigation have only recently begun to be realized. The inter-relations between the nature of the soil, irrigation and the monsoons have formed the subject of careful investigations, for instance, in the Irrigation Research Laboratory in the Punjab. In Bengal, experiments to evaluate the Damodar canal slit showed that the quantity and quality of the silt varied from time to time and that the canal silt was very rich in the major plant nutrients. The application of electricity to irrigation and farming operations has also made considerable headway. The United Provinces and Madras have in this respect led the way. In the former Province, the source of power is the Ganges hydro-electric grid scheme which, by harnessing successively five of the eight larger falls on the Upper Ganges Canal as load developed, has enabled power to the extent of 12,000 K.W., to be transmitted over eight districts comprising a total area of some 12,000 square miles. Since 1935, however, the scheme has been enlarged, the total output of about 30,000 K.W. being aimed at, of which 16,000 K.W., is being allocated to irrigation and agricultural purposes.†

*Sir William Willcocks: *Irrigation in Bengal* (Calcutta University Press, 1930).

†As the U. P. scheme is more than of local interest, the following description of the scheme (1935) will bear repetition:—

"Power is transmitted by means of the main net-work at voltages of 66,000 and 37,000 the distribution stations located over the area from which a secondary series of branch lines at 11,000 volts serve individual towns and groups of towns. There is also an expanding tertiary or rural net-work at 11,000 volts to energise the intervening tracts including the State tube-well systems and many isolated agricultural farms.

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The reference to the United Provinces project has been a digression. Artificial irrigation is to be understood as part of the general problem of water supply. In those parts of the country where rainfall is heavy, agriculture is secure. In such areas, heavy yielding food crops such as rice as well as valuable commercial crops are raised with the help of the rainfall due to the monsoons and of spill irrigation. Generally speaking, the Ganges region is watered with the help of the rains while artificial irrigation is a factor of agricultural development in the Punjab, Sind and the coastal plain in South India. In some parts of the area subject to the monsoons, the rainfall is so heavy that even after the summer harvest is reaped so much moisture is still left in the soil that another winter crop can often be taken off the same land in the same season without manuring and irrigation.* In other parts, though the rainfall is heavy, it is so badly distributed that there may be a complete failure of the crops or even famine, for example, when there is a failure of the rains at the critical time. Where however, the rainfall is moderate but the cultivators depend on artificial irrigation as in the Punjab, a stable agricultural economy becomes possible and the density of the population keeps pace with the development of the sources of artificial irrigation. Thus the Gangetic plain has to contend against two different problems. In some parts, owing to heavy rainfall that is evenly distributed, the problem is one of water-logging and over-saturation. In other parts the problem is one of retaining every drop of moisture in the soil.† In such a case artificial irrigation is turned into a factor of great importance in the rural economy of the Gangetic plain.

Continued from previous page

The initial objectives of the grid scheme were to supply power to irrigation pumping stations for lifting water from rivers, flowing at low levels, for irrigating tracts hereto uncommanded by the existing canal systems. At the same time, power was to be supplied to all towns and urban areas having each population of 5,000 or over in the districts affected. Under this aspect of the scheme, power has already been supplied to eighty-eight towns for domestic and minor industrial purposes. Demand for electricity having been established in the area, arrangements have been made for expanding the supply of power by means of the tertiary net-work both to the State tube-well system and to farm installations." *Agriculture and Animal Husbandry in India* Part I, 1936, p. 256.

*Dr. B. N. Ganguli: *Agriculture and Population in the Ganges Valley* (1938), pp. xv-xvi.

†*Ibid* p. 68.

§ 3

IRRIGATION PLANNING.

The arguments presented above reveal the necessity of a complete hydrographic survey of the country. Without such a survey, it would not be possible to determine the correct type of irrigation suited to the different regions of the country. It has already been pointed out in Chapter VIII that the surveys to be conducted by the Bureau of Survey, Statistics and Research should include a hydrographic survey of the country. The development of irrigation works must, however, be supplemented by the control of meteorological conditions. This includes in particular the survey of soils on the one hand and the control of moisture on the other. Soil surveys in typical regions are already in progress in different provinces of India. What is wanted is that these surveys should be conducted on a comprehensive and systematic basis. As regards control of soil moisture, the full significance of agricultural meteorology does not appear to have been realised by the different Provincial Governments, though some attempts have been made, for instance, at Poona, to determine the extent of the absorption of moisture by the soil from the air-layers near the ground. It was in 1930 that the Imperial Council of Agricultural Research approved of a scheme of agricultural meteorology, which was, however, actually inaugurated in 1932. A Central Agricultural Meteorological Observatory has been started at Poona to study the climate of air and soil-layers near the ground in the open as well as inside different crops (which is called "micro-climate") and to evolve methods of measuring these with the help of specially designed instruments. Micro-climatic measurements form an important part of the work of the Observatory. It is found that the "macro-climate" or the general climate of a locality differs widely from the micro-climate. When we wish to study the environmental factors of different crops, gardens, forests etc., the careful measurement of the micro-climate becomes an important task. Other useful experiments too have been conducted, for instance, into the absorptive properties of different soils, soil temperatures, radiation etc. It is evident that if full use is to be made of the possibilities of the science of agricultural meteorology it should be necessary to equip selected farms in different regions with standard meteorological equipment.

The possibility of the "transference" of the fertility of soil from one part of the country to another may also be investigated. Scientists now tell us that fertile soil can not only be "manufactured" but even "transported". Thus Dr. Pearson refers to the case of the Channel Isles where there had been many sites originally more or less bare rock to which good soil was taken with the result that plentiful crops are now growing year after year, and some of them two or three crops within the year.* The introduction of glass frames and green house heating appliances, even manure, are contributing to the climate for horticultural and agricultural purposes. In short, agricultural chemistry, agricultural meteorology and a well-planned system of irrigation must be the complementary parts of a comprehensive plan. It will therefore be necessary for the Central Board of Agriculture to devote proper attention to the chemistry of the soils in India and to organize a proper study of agricultural meteorology. The Bureau of Irrigation similarly should proceed on the results of a hydrographic survey of the country and devise, in accordance with these results, a comprehensive scheme of irrigation works for the country as a whole. The Bureau will naturally work through regional organizations, the appropriate regions being determined for irrigation purposes by the Bureau. We may also add that the methods of ploughing are intimately connected with the nature of the soil. For instance, sub-soil ploughing is a tillage operation which is required in certain circumstances, for instance, when an impervious pan prevents the downward passage of water, roots and air. This method of tillage does not aim at bringing the sub-soil to the surface but in rendering it permeable to water, and from this point of view, it may be regarded as supplemental to draining.

In this connection reference may be made to the necessity of preparing "Land Utilization Maps" which will be a full record for the whole country and of the uses to which the land is put at the time that the maps are prepared. Such maps have been prepared for England. Mr. C. F. Close writing in the *Geographical Journal* about these maps observes: "Survey maps were published which show in colour, the cartographical results of the survey. Six colours have been used for the over-printing tract, green for forest and

*Pearson : *The Growth and Distribution of Population*. (1935) pp. 22-23.

woodland ; light green for meadow land and permanent grass; brown for arable land, including rotation grass; yellow for heath land, commons and rough pasture; purple for gardens, alloments, orchards and nurseries; and red for land agriculturally unproductive." About the uses of these maps, Mr. Close says: "First, they form a more complete topographical map than any which has existed hitherto The picture which it gives of the country is a fuller one than that which is given by ordinary topographical maps. Secondly, the new series forms a kind of Domesday Map of the land of Great Britain. It is a record which will be of immense value in the future And thirdly, subsequent surveys of a similar kind will, when compared with this pioneer survey, show, with exactness, the details of the changes which the land has undergone during the interval Agriculture will become relatively more important in the life of a nation, and the land utilization survey will be part of the apparatus of development." These maps were prepared in England in 1932. We think an effort should be made in India too to prepare such maps for the country.

A few words may now be said on the possibilities of agricultural engineering in India. So far as the question of supply of Power to the agriculturist is concerned, mention has already been made of the Ganges Hydro-Electric grid scheme in the United Provinces which has enabled Power to the extent of 12,000 kilowatts to be transmitted over a total area of 12,000 square miles. In the same Province, in Bijnore and Moradabad districts, 200 cusecs are being lifted from the Ram Ganga river to a height of 36 ft. for the protection of area of 100,000 acres. In the dry tracts commanded by river-fed canals, extensive experiments have been made in pumping water from the sub-soil by means of a system of state-owned tube wells.* Hydro-electric power is being utilised not only for the purposes of irrigation but also for the processing of agricultural products. A certain development of electrified agricultural industries has been consequently possible. The full possibilities of the application of hydro-electric power for such purposes should be immediately explored. As regards mechanical cultivation, there seems to be at the moment no limit to its possibilities. There is again no doubt that the application

*See *Agriculture and Animal Husbandry in India* (1936), Part I, pp. 225 ff.

of scientific methods of cultivation with mechanical power involve a radical re-organisation of the present agricultural system. As Dr. Pramathanath Banerjea has pointed out, "the scientific method of cultivation, involves large tracts of land, deep ploughing, perfect irrigation, good manuring and proper rotation of crops; and thus necessitates the expenditure of a large amount of capital which is beyond the means of the ordinary cultivator.*" Enough, however, has been said suggesting that if agriculture is properly planned, there is a great room for the application of science to agriculture. It is a fact that in some cases the introduction of mechanical methods reduces the costs of cultivation. This refers particularly to improved agricultural implements. The Royal Commission on Indian Agriculture found that in 1925-26 only 17,000 improved ploughs were sold as against the total of 25 millions ploughs already in use. It has been calculated that an improved plough turned out by machinery costs about Rs. 4 compared to an indigenous plough which costs from 5 to 6 Rupees each. Similarly where motor tractors can be used, it is likely to be more economical than the existing appliances. As the result of experiments, it has been claimed that the minimum economic working life of 8,000 hours could be safely assumed for a tractor, and with further improvements its life is certain to become longer still. Experiments conducted at Pusa also showed that a tractor could easily displace 8 to 10 pairs of bullocks. Where large extensive areas are at present lying desolate, the possibilities of large scale agriculture with the help of motor tractors is by no means a far-fetched one. With the consolidation of holdings and rationalisation of the agricultural system, the possibility of scientific agriculture has practically no limits. Unfortunately, proper attention does not seem to have been given to the question of agricultural engineering. Yet it is evident that this is a subject on which the State can usefully co-operate with private organisations, for instance, with trade organisations, commercial farms, large land-owners and the like, who have already been taking interest in the use of tractors in their own estates. The planning authority must, it is obvious, encourage in every way possible mechanical inventions in relation to agriculture. It is only in this way that the full benefits of agricultural improvement can accrue to the country.

*Dr. Pramathanath Banerjea: *A Study of Indian Economics*. pp. 85.

§ 4

ORGANIZATION.

So far as the organizational aspect of irrigation planning is concerned, it has already been mentioned that the Bureau of Irrigation will be responsible for preparing a comprehensive Irrigation Plan for the whole country. Sufficient has been said in the preceding sections to indicate that the problems of irrigation are different in different parts of the country. It would therefore be convenient if the Central Bureau of Irrigation has the proposals emanating from the provincial authorities as the basis of its Plan. It would also be convenient if, when the Plan is framed, its execution devolved upon the provincial authorities concerned.

The constitution of the provincial authorities and their powers should receive careful attention. Irrigation, like railways, requires a programme of construction and development spread over a number of years and it is essential that both from the point of view of its control and finance it should be made independent of the turns in the fortunes of political parties or of the exigencies of the annual budgets. In other words, it would be necessary to set up provincial organizations on the lines of an Improvement Trust or a Port Trust, which should be incorporated by law, each with its own independent sources of revenue for the proper financing of the approved projects. In short, a Waterways and Irrigation Trust should be formed in each province for the purpose of giving effect to approved schemes and administering the general irrigation and waterways policy of the Province concerned. The function of these Trusts should be the double one of reviving, and if necessary, reconstructing the river and drainage system of the province, and of the execution of schemes of irrigation suitable for the province. Where necessary, the Waterways Trusts should be organized on an inter-provincial basis. The Chairman of the Trust should be a whole-time paid official appointed by the Provincial Government while the other Trustees should represent the different interests relevant to the work of the Trust. These Trusts should be authorized to finance the approved schemes allotted to them by the issue of long term bonds. The Bengal Waterways Board scheme represents the type of authority to which these Trusts should conform.

§ 5

IRRIGATION FINANCE.

While the Bureau of Irrigation will have to devise a comprehensive but well-regulated scheme of irrigation works for the whole country, not the least part of the business should be to find adequate funds for financing the works. The capital cost of the schemes may be met by the issue of bonds. But the service of such bonds and the maintenance of the works will also require finance. Irrigation finance has been a thorny problem for a good many years. When irrigation works used to be classified as productive and protective, productive works used to be financed by means of loans while protective works used to be financed from general revenues, chiefly from the Famine Insurance Grant, half of which (Rs. 75 lakhs) was ordinarily set apart for protective railways and canals. Before the Irrigation Commission (1901) reported, a major part of this sum used to be allotted to railways, but following the report of the Commission, it was decided to allocate the whole of this sum to protective irrigation works. In 1922, the distinction between productive and protective works which had never been precise was abolished, it being decided to finance all works of importance by means of loans. The total capital invested in irrigation works rose from Rs. 42 crores in 1900 to Rs. 78 crores in 1920, an increase of Rs. 36 crores in 20 years. The Irrigation Commission it may be recalled, had recommended a rough programme for a period of 20 years at an estimated expenditure of Rs. 44 crores. The recent developments of hydro-electric projects have added to the scope of irrigation works in the country and to the necessity of organising a system of adequate finance for the same. Irrigation is now a provincial subject. The Provincial Governments have, however, been given borrowing powers, and there could be no more appropriate reason for making use of the borrowing power than the development of irrigation throughout the province.

The Bureau of Irrigation should lay down a comprehensive programme of irrigation works spread over a number of years, and each province should be allotted the funds necessary for financing the works. The central planning authority should grant subventions in special cases. A total initial capital expenditure of fifty crores of rupees for the whole country spread over ten years should not be regarded as erring on the side of excess. No hesitation should be felt

in raising this sum which will reproduce itself, if not in the shape of immediate return, at least in the shape of increased prosperity. The point may be illustrated by referring to the irrigation works in Egypt. Within six months of the completion of the Assuan Barrage, the price of land in Egypt had risen from 14 years' purchase to 20 years' purchase, or by 40 per cent. In 40 years, the value of agricultural land in Egypt had risen from £150,000,000 to £550,000,000 and is to-day worth £700,000,000.

In this connection a reference is necessary to Dr. C. N. Vakil's finding that the Indian Irrigation Account shows a net burden to the State when the portion of land revenue increase which is shown as due to irrigation is allowed for.* Dr. Vakil takes objection to the practice of including within irrigation receipts a portion of land revenue which is said to be due to irrigation on the ground that the inclusion of this item within irrigation receipts is largely conjectural and arbitrary, besides being unscientific and misleading. He would restore this item to Land Revenue proper and make a corresponding deduction from the irrigation receipts. As a consequence of this adjustment he finds that the irrigation account really shows a net burden to the State. While there is considerable force in his argument, it may be pointed out that there is a direct relation between irrigation and the productivity of land, and therefore, land revenue. As a matter of fact the Egyptian system does not favour the imposition of any specific levy for irrigation but combines the land revenue with irrigation charges.† There is a good deal to be said for this view. Irrigation rates are at present fixed mainly with reference to the cost of individual projects so that if the cost is high, the rate is also high, often being pushed up to such a level that it goes beyond the capacity of the cultivators to pay. To

*C. N. Vakil: *Financial Developments in Modern India*, Chapter VIII.

†"The Egyptian system has lasted six thousand years and is working well to-day; the combined levy is applied to the whole area of each block of the land and allows every land-holder to look on land and irrigation as one, and encourages him to irrigate his fields when they need water. It does not encourage him to put off irrigation to the last moment and often lose no small part of his harvest. Irrigation means insurance against drought and the vagaries of rainfall; and a fixed combined land and irrigation tax, to be paid year in and year out, insures against the worries of watching wind and cloud and seeing if one cannot evade part of the tax; while all the time crops are losing value." S. V. Pearson: *The Growth and Distribution of Population* (1935), p. 100.

blame the cultivators who are unable or unwilling to take water at a cost which agriculture will not bear will be misleading in such circumstances. A faulty system of irrigation finance is perhaps more to blame. It is possibly for this reason that the Lloyd Barrage at Sukkur has turned out to be an unprofitable investment from this point of view. This project was opened for irrigation in 1933 and yielded a net revenue of only Rs. 20 lakhs during 1930-33 as against a cost of about Rs. 30 crores. Even inspite of such set-backs or exceptions, productive irrigation works have in most cases yielded a satisfactory return on the total outlay of capital. The canals in the Punjab, for instance, yielded 12·4 per cent in 1933, while the net return on capital for the whole country was 5·35 per cent.

For the purposes of planning, however, it should not be proper to concentrate attention only on the immediate gain. It is of the essence of planning to look ahead into the distant future, and therefore, the utility of irrigation works must not be judged so much with reference to any immediate return as to its ultimate effects on the agricultural prosperity of the country. This is particularly true of hydro-electric projects the full effects of which would require a relatively long stretch of time to be apparent. In so far as the cultivators are not able to pay the rates which will result in a fair return on the cost according to the standards of the capital market, it should be the duty of the Government to charge the deficit, in the shape of a sinking fund, on the general revenues of the country.

CHAPTER XII

ANIMAL HUSBANDRY

§ 1

THE PROBLEM.

When it is realised that India is predominantly an agricultural country, the significance of her cattle wealth becomes at once apparent. Mechanised agriculture is still a far cry in this country, agricultural operations being performed mostly with cattle labour. The total livestock population of India (including Burma and the Indian States) as shown in the Census of 1935 is approximately 316 millions distributed as under :—

Bulls and Bullocks	...	66	millions
Cows	...	53	"
Young Stock	...	49	"
<hr/>			
Total (Ox Tribe)		168	"
Male Buffaloes	...	7	"
Female Buffaloes	...	22	"
Young Buffaloes	...	18	"
<hr/>			
Total Buffaloes		47	"
Total Bovines		215	"
Sheep	...	43	"
Goat	...	53	"
Horses and Ponies	...	2	"
Mules and Donkeys	...	2	"
Camels	...	1	"
<hr/>			
<i>Grand Total</i>		316	"

Unfortunately a large proportion of India's cattle power is practically lost to the country, for a great many of the livestock maintained in the country are of extremely poor quality.

A survey of the conditions of cattle management in India shows that the total number of ordinary cattle is primarily determined by the number of animals needed for work on the land; they far exceed in number the milch cows. It is also agreed by experts that the existing number of working bullocks can be greatly reduced without necessarily reducing the existing standard of cultivation. Finally, it is also a fact that there has been a progressive deterioration of cattle in India. The worse the condition for rearing efficient cattle, the greater the numbers kept tend to be. As the number increases, or as the increase of tillage encroaches on the grazing land, the pressure on the available supply of food leads to still further poorness in the cow. As cattle grow smaller in size and greater in number, the rate at which conditions become worse for the breeding of good livestock is accelerated.

The problem of the improvement of cattle in India is a three-fold problem, according as cattle is used. Cattle may be used as draught animals for the plough or the cart. Secondly, they are important from the point of view of milk production. Thirdly, their importance arises from the point of view of livestock industries.

Of these three uses for which cattle is necessary in our country, its use in agricultural operations is by far the most important. Milk, though important, is a secondary consideration. The primary function of the cattle is to provide labour for agriculture. Without the bullock no cultivation would be possible; without the bullock no produce could be transported. Rearing of milch cows has usually been regarded in India as a question of secondary importance. The choice is always in favour of the cattle which can be used in agriculture. In one sense there is a divergence of interest concerning the use of cattle either for agricultural operations or for the purpose of milk supply, in that the opinion is strongly held by experienced breeders throughout India that development for milk is detrimental to the capacity of Indian cattle for work. The cow is looked upon by the villager simply as a mother of the working bullock. It is also pointed out that until the village dairy industry has been developed, cattle breeders must be expected to continue to produce the non-descript, inefficient general utility animal so commonly met with all over India.*

*See a paper by Col. A. Ower in the *Journal of the Imperial Council of Agricultural Research*, May, 1933.

As regards the use of cattle as producers of milk, it is the she-buffalo and not the cow that is commonly regarded by the villagers as a milk producer. The buffalo is the villager's main dairy animal and yields about twice as much milk as the cow. Recently, at the instance of His Excellency Lord Linlithgow, a survey of cattle and of milk production and consumption was undertaken in seven typical breeding areas. The survey revealed the village buffalo's superiority to the village cow and the reason for it. The figures are given in the following table :—

TABLE

	Montgomery	Haryana	Kosi	Bihar	C. P.	Kankrej	Ongole
<i>Average daily yield of milk</i>							
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
Cows	4.72	4.46	3.89	2.74	1.67	3.90	4.64
Buffaloes	8.24	11.21	7.06	5.46	5.44	7.97	6.53
<i>Estimated quantity of milk fed to calves during their growth</i>							
Cows male	477	310	248	191	141	277	419
Cows female	377	193	149	211	142	271	433
Buffaloes male	299	189	195	250	267	613	680
Buffaloes female	423	237	221	331	269	547	648

The Royal Commission on Indian Agriculture also found that "it is the number of she-buffaloes, not the number of cows, that has to be taken into account when seeking an index of milk production of a province. Wherever an important market for ghee exists, it is the she-buffalo which mainly supplies it." Dr. Wright has also stressed the buffalo's importance and opined that the buffalo will for many years hold her own against the cow as the premier dairy animal of India. A recent investigation conducted by Mr. K. P. R. Kartha of the Animal Husbandry Bureau of the Imperial Council of Agricultural Research regarding the comparative economic efficiency of the Indian cow and the buffalo as producers of milk and butter fat led to the following conclusions:—(a) The Indian cow shows latent milking qualities and if specially bred, can

reach the level of the half-bred in milk production and beat her in butter production ; (b) if fodder is cheap, the buffalo can compete with any breed in butter-fat production and with the ordinary Indian cow in both milk and butter. If fodder is of moderate price, only the specially-bred Indian cow can beat the buffalo in the butter production, but if fodder is dear, even the ordinary Indian cow can beat it ; and (c) under existing conditions the buffalo is more economic for the villager than the cow, as the free grazing she gets on the road side enables her to beat the cow in the production of both milk and butter. Mr. Kartha accordingly concludes that discrimination is necessary in choosing the right type of milch animal for dairying, the choice depending *inter alia* on the cost and type of fodder available.

The survey conducted by the Imperial Council of Agricultural Research in the 7 selected areas recorded the following interesting facts regarding the consumption of milk. Taking the 7 tracts together, it was found that 16 per cent of the families in India do not receive any milk or milk product, 36 per cent consume the equivalent of between 0 and 8 ozs. milk per head per day, 26 per cent between 8 and 16 ozs., and the remainder or 22 per cent receive over 16 ozs. Assuming that the minimum physiological requirements of the people, a large proportion of whom is vegetarian, is between 15 and 35 ozs. per head per day,* the proportion of families which obtain this quantity is only a fifth of the total. It must be borne in mind that these figures represent only the important breeding tracts and not the whole of India. Since breeding tracts should be expected to produce and consume more, the all India consumption is likely to be less. The necessity is thus clearly for a large increase in milk production. It was found on an analysis of the records of purchased and farm-bred animals available in Government farms during the same enquiry that in the case of cows a regular average increase of 50 per cent of milk yield was obtained by better feeding and management alone, while the further improvement due to breeding produced only 10 to 12 per cent. In the case of buffaloes the corresponding figures were 15·2 per cent and 8·8 per cent. These figures support the evidence that proper feeding and management are of the utmost importance under the present conditions in India and that the buffalo is generally better looked after by the cultivator than the cow.

As regards the use of cattle for purposes other than those in relation to agricultural operations, it has been estimated Indian cattle, even in their present condition, produce about Rs. 540 crores worth of dairy products and Rs. 180 crores worth of manure. The cash value of dairy products in India has been estimated to exceed that of the work of all kinds performed by cattle for which they are at present primarily bred and maintained, and it seems certain that with the advance of mechanical means, and the increased milk consumption certain to arise with the broadening of education, the disparity will become increasingly greater year by year.* It has been recognised, however, that the improvement of the dairy industry in India requires a careful recording of milk yields, testing and pedigree registration. As Mr. Kartha has pointed out, the dairy industry is most advanced in those countries where milk recording and pedigree registration have made the most rapid strides, and he points to the example of Denmark which is a pioneer in this field and is probably the greatest supplier of butter to world markets.† The dairy industry of India is still in its infancy and no organisation has so far been established for cow testing. If such an organisation is established and the results are regularly published, it should, Mr. Kartha adds, help breeders and buyers both in India and outside, and, as there is already a growing realisation in other tropical countries that a certain proportion of zebu blood is essential for the maintenance of the constitution in their cattle, the demonstration, by such publication, of the milking possibilities of Indian cattle might lead to the establishment of a profitable export trade. The records thus collected should also prove to be of great value to those who are engaged in the study of dairying problems.

In India research work along these lines has just started. A central dairy institute and farm—the Imperial Dairy Institute at Bangalore—has been maintained by the Central Government for some years now for the purpose of instruction in the principles of dairy farming and European dairy methods. A Livestock

*See Article by Col. A. Ower in the *Journal of the Imperial Council of Agricultural Research*, May, 1933.

† "She (Denmark) started the first Milk Recording Society of the world in 1895. Three years later, there were 109 such societies in Denmark and the milk yields of about 45,000 cows were recorded per annum. By 1933-34 recording organisations had increased to 1,588 and cows under test to 701,087 which is about forty per cent of the total number of dairy cows in Denmark." See *Milk Records of Cattle in Approved Dairy Farms in India* (1938), compiled by K. P. R. Kartha, p. 1. (Miscellaneous Bulletin No. 18, I. C. A. R.)

Research Station has also been established at Hosur. Breeding work for the improvement of cattle has followed three main lines in this country, namely, the breeding and supply of suitable studbulls, the establishment of definite breeding areas where intensive work is carried out under premium bulls schemes or other suitable methods, and the systematic castration of scrub bulls. It is well-known that interest in cattle breeding has been greatly stimulated under the inspiring lead given by His Excellency Lord Linlithgow. The number of approved bulls at stud in 1935-36 was approximately 10,000. It has also been decided to set up provincial Livestock Improvement Boards for the purpose of raising funds and advising on their application.

Pedigree herds of most of the more important and valuable Indian breeds of cattle have now been established both relating to milch breeds and draught cattle. An important step was also taken in 1936-37 by setting up Breed Committees and by starting a scheme for the central registration of pedigree animals of the principal milch breeds of India. It has been found that these breeds are not only hardy and disease-resistant but under proper conditions of feeding and management the best of them have reached a very high standard of milk production.*

The problem of cattle disease has been described by Sir Bryce Burt as "the first and greatest problem" in regard to the huge population of domestic animals that India maintains. The Imperial Institute of Veterinary Research has been giving attention to this problem for some time past with the result that the mortality of cattle from contagious diseases has been brought down from 4,00,000 in 1925-26 to 1,38,000 in 1935-36. The staff of the Imperial Institute has

*"There are cows of pure Indian breeds which have given 25 seers of milk a day, and cows of cross-European-Indian breeds that have given over 45 seers of milk a day. These animals were not bought in the open market, but have been bred for at least three or four generations of good stock.

"At Dacca and Rangoon, we have bulls with three or four generations of good breeding behind them. The stud-bull at Rangpur is from a cow which gave over 7000 pounds of milk in a year. We have cross-bred cows from these bulls that are giving from 5 to 11 seers of milk a day, and some of our pure bred cows are giving 12 seers of milk a day. We have animals at the two Government farms capable of producing 5000 pounds of milk in a lactation of 300 days. What has been done on these farms can be done in the districts."—Mr. F. J. Gossip, Livestock Expert to the Government of Bengal in course of an address at the annual Conference of the Presidents of Union Boards held at Dacca on the 22nd September, 1930.

recently been enlarged, and separate sections of pathology, bacteriology, serology heminthology, protozoology and entomology have been set up, each under the charge of an expert. A disease investigation officer has also been appointed in each Province who maintains a liaison with the Central Institute. Attention is also being paid to the question of animal nutrition and an animal nutrition laboratory has been established at Izatnagar near Bareilly for the purpose. A pamphlet* has recently been published by the Imperial Council of Agricultural Research on the nutritive values of Indian cattle foods and the feeding of animals, which gives the analysis and food value of 152 varieties of common foodstuffs in India. This would be a useful source of reference.

With the question of nutrition, the question of grass land improvement has also received attention recently. The Royal Commission on Indian Agriculture had pointed out that one of the ways of ensuring the maintenance of a better breed of cattle would be by increasing the productivity of grazing by village societies. The extreme inadequacy of pasture grounds in India brought about mainly by the encroachment of agriculture is one of the most serious handicaps in the way of improvement of the cattle in India. For this purpose it will sooner or latter be necessary to protect further encroachment on grazing lands, if necessary, by legislation. Similarly every encouragement should be given to the growth of fodder crops. Good fodder is essential for the double purpose of maintaining the animal and of giving it the material with which to manufacture milk. It is also necessary for the purpose of the reproduction of strong and healthy calves. Fodder is scarce practically throughout the whole country and in order to feed cattle well, sufficient green succulent fodder is essential, specially for milk producing animals, not only for the moisture in it but for the vitamins it contains. Fodder is also necessary to give bulk to the ration. Buffaloes require more bulky food than cattle. It has been observed that some of the best cattle now in India are to be found where grazing is scanty or non-existent for the greater part of the year, as in the North West Frontier Province, the Punjab, portions of Bombay, Karachi, Sind, where cattle-owners are compelled

*Miscellaneous Bulletin No. 25, I.C.A.R.

to grow fodder crops, or revenue crops, the residue of which is good fodder.*

Grazing lands in appropriate areas are difficult to provide. In any case they represent a costly investment. Grazing is satisfactory only where the grasses growing are good, and then only during the growth period. For the remainder of the year such grass supplies bulk and little more. Moreover, on account of the extension of cultivation which is likely to increase rather than diminish in the future, it is the cultivation of fodder crops, suitable for the locality and the cattle, rather than the provision of free grazing, that offers the only possible solution of the cattle food problem.

Apropos of this, Bengal offers an appropriate illustration. On account of the propaganda for the restriction of the area under jute, the problem has arisen of what to do with the lands thus set free. A press note issued in 1934 by the Imperial Council of Agricultural Research pointed out that sugar-cane can replace jute only to a small extent, say, about 100,000 acres. A great proportion of the land liberated from jute would have to go under rice "and the slump in rice makes it doubtful policy to add to the acreage in rice". A suggestion was then made whether the lands thus set free on account of the restriction of the jute area could be utilised for pasture. Incidentally, we may recall the fact that Mr. Blackwood, in his report on the *Survey and Census of the Cattle of Bengal* pointed out that "the most important circumstance, other than climate, adverse to cattle breeding in Bengal is undoubtedly the deficiency of pasture". Mr. Blackwood, however, was not in favour of growing fodder crops in a province like Bengal. He advocated a system of mixed farming, the main principle of which is to use land for grazing and cropping alternately. By throwing land to grazing, the cultivator might secure the double advantage of allowing the land to rest and of fertilizing it with the manure obtained from cattle.†

*See Article by P. J. Kerr, I.V.S., Chairman of the All-India Cattle Show Committee, 1939, published in the *Statesman Horse and Cattle Show Supplement*, February 13th, 1939.

†A correspondent writing in the *Statesman* (June 23, 1934) cites the following examples which will bear reproduction. Referring to the difficult question of finding rich pastures in areas where all the soil is wanted to grow food for the people or crops which they can exchange for food, the correspondent observes :

The economic aspect of the problem can be discussed from two points of view. It must be agreed that the object of cattle improvement would not be fully realised if it failed to improve the quality of the cattle kept by the cultivator, for it is pointed out that it is only on mixed farms, large or small, that cattle can be really economically bred and reared, and return full value for the care taken of them. Encouragement, therefore, should by all means be given for the breeding of good cattle even by small farmers. As Mr. Kerr pointed out, if the above policy were carried out to its full extent there should be a vast increase of good milk available at a reasonable price for the general public. By the development of co-operative milk collection and marketing, surplus country milk can be supplied in urban areas at prices the people can afford. If, along with these, regulations prohibiting adulteration of milk and milk products were strictly enforced, the dairy-man, who now keeps his cows in cities, would be compelled to move out into the country.* A further result,

Concluded from previous page 1

"The reply was furnished by a correspondent who cited the case of the Lombardy plain which has been known for 3,000 years as the great mother of food crops where the cultivators know how the cattle should be fed "not only on wild grass and willow leaves and sedge and swamp but pick also for them corn sown by the hand." In the Lombardy plain they still sow fodder crops for the cattle by the hand and devote half their land by rotation to pasture.

"The soil and climate of Lombardy are not superior or even equal to those of the deltas of the Ganges, the Godaveri, etc., for paddy cultivation. As a matter of fact the season in Lombardy when it is hot enough is so short that it is with difficulty that one crop a year can be scrambled out. But what are the figures for the yield? The official figure of the average yield in North Italy is 45 quintals a hectare— $4\frac{1}{2}$ tons—nearly 2 tons per acre. The official figure for most parts of India is well below 4,500 lbs. an acre. If for every million acre the acreage is reduced to 400,000 acres taken in rotation and manured properly and weeded properly, as they do in Italy, and get a yield of 4,000 lbs. an acre instead of 1,200, the 400,000 acres would yield one-third more paddy than the million acres do now and we would have in hand 600,000 acres on which to raise crops of grass and fodder for the cattle or other crops for men.

"In Italy where paddy was first introduced and grown year after year in the same fields, the cattle had to be driven away to the hills in the summer for the growing of paddy. But sowing paddy year after year in the same field has now been given up. "Rotation paddy-fields are far more productive than the stable paddy field," says an Italian text-book, "and their productive capacity is great in proportion to their freshness." The following may be regarded as common and ideal rotation in Italy: Common:—(1) 3 years paddy, 1 year dry cultivation with wheat or oats; meadows sown in the cereal while it is growing and then it remains meadow for a year or two; after the meadow sometimes maize. (2) For heavy soils—1 year paddy, 1 year wheat or oats, 1 year meadow. Ideal—2 years paddy, 1 year dry cereal, 2 years meadow."

*Writing on this subject, Sir Bryre Burt in the article already referred to observed that the sending of the dairy industry out of the Indian cities calls for immediate experimental work on processing and transport. This is proposed to be taken up at the enlarged Imperial Dairy Institute.

Mr. Kerr adds, would be that under rural conditions the milkman would find it economic to breed again from his good cows, and rear the calves. This should reduce loss of good calves which at present is enormous, and limit the sale of young milch cows for slaughter to those which are not economic.

§ 2

THE PLAN.

In the previous section the cattle problem of India has been discussed in all its main aspects. The organisation necessary for the improvement of Indian cattle already exists in the shape of the different institutions that have already been working on the different aspects of the problem. It is only necessary to co-ordinate their activities and bring them into relation with the other aspects of the Agricultural Plan. Secondly, it will also be necessary to enlist in a work like this the maximum measure of non-official co-operation, particularly the co-operation of the landlords and the farmers, big and small. So far as the first question is concerned, the agricultural planning authority will provide the organisation necessary for the purpose of co-ordinating the activities of the various institutions dealing with the problems of cattle improvement and of the development of the dairy industry in India. The following should be the main lines of activity of the planning authority in relation to this problem :—

(a) The number of agricultural research stations and particularly cattle breeding experimental institutes should be multiplied. Breed Committees should be set up in approved areas to guide intensive work to be carried out under premium bulls schemes or other suitable methods.

(b) The practice of “mixed farming” which has for its chief object the connection of cattle with the land should be encouraged. The regional committees suggested in the previous chapter should be made responsible for the proper working of the system.

(c) The personnel of the Civil Veterinary Departments should be strengthened and means must be found to convey the results of the research carried out at the Imperial Veterinary Research Institute to the rural areas, mainly through the regional committees operating in such areas.

(d) In the planning of crops proper attention should be paid to the growing of adequate quantity of fodder crops, by rotation where necessary. Where circumstances permit, good grazing land should be made available in the case of areas which might be able to bear the cost of maintaining such lands.

(e) Co-operative milk societies should be started for the purpose of collecting the milk and distributing it to consuming centres at a price to be determined either by the regional committee or by a central association of the societies.

As for the enlistment of voluntary non-official help, the formation of local cattle improvement associations should be encouraged in all suitable regions. The existing voluntary associations should be encouraged to take the initiative in the matter. Unless such associations are found to direct the local organisations the value of improved bulls already distributed will decline and be lost. The small farmers should receive proper representation on these associations and subscription should not be more than 8 annas a year. Incidentally, it should be the duty of these associations to encourage those of the Hindus who want to earn religious merit by the presentation of bulls, to present these to the association concerned instead, and to see that these bulls are of the proved standard.

Finally, as apart of the general scheme steps should be taken to prevent the adulteration of milk and milk products in any shape or form, and to organise the dairy products of India on a commercial scale according to modern methods. The importance of the question of milk recording has been emphasised in this connection and Denmark's example has been cited to prove the usefulness of such recording of milk production. It is only very recently that the attention of the Government has been drawn to this subject. Here there is considerable scope for the organisation of non-official voluntary agencies to make this scheme a success.

CHAPTER XIII

INDUSTRIES ALLIED TO AGRICULTURE

§ 1

FRUIT CULTURE.

In this chapter some of the industries which are allied to agriculture or can be carried on as an occupation subsidiary to agriculture will be discussed. The problem as just stated is a two-fold one. The allied industries, in the first place, may be a source of independent livelihood; they may be, secondly, supplementary to the main occupation of agriculture. When it is remembered that a great many of India's millions are either unemployed or underemployed and that in parts of the country agriculture is already bearing too heavy a burden, the importance of occupations that can be carried on in the village or the rural areas either independently or in alliance with agriculture cannot be exaggerated. The Census of 1931 shows that the proportion of non-working dependants to workers in agriculture is as high as 56 to 44. What is more significant is that the proportion of non-working dependants has been increasing since 1911. In any occupational planning the greatest attention needs therefore be paid to the problem of subsidiary or supplementary occupations.

Thus, to take one instance, the fruit industry has been greatly neglected in our country. Unfortunately, full statistics of fruit production are not available. The planning authority should make it a point to obtain complete figures as far as possible of India's fruit production as well as the possibilities of developing the fruit resources of the country. So far as the available statistics go, the area under fruit is about $2\frac{1}{2}$ million acres. The climatic diversity of India has made it possible to grow all kinds of fruits known the world over. Apples, peaches, plums, cherries, apricots etc., are

grown in Kashmir, Kumaon Hills in the United Provinces, Kulu valley in the Punjab and Quetta. Mangoes, lichees and locquats are grown in the plains of the United Provinces and Bihar. The Central Provinces are famous for their Nagpuri oranges. The Bombay Presidency is noted for its Alfonso mangoes, bananas, sapotas etc. The Punjab has its Maltas and grapefruits. Bengal grows mangoes, cocoa-nuts and bananas. Thus the fruit resources of the country are abundant and well-distributed. Yet production of fruits as well as the trade are in untrained and ignorant hands. With a few exceptions the industry as a whole is in the hands of the ubiquitous *malis* while the marketing is looked after by contractors. Though in many cases the *malis* possess a good general knowledge of the industry, such knowledge is in most cases antiquated when compared to the great strides that fruit production on a scientific scale has made in the advanced countries of the West. Most of the fruit orchards, again, have been planted largely for the sake of domestic consumption and the commercial aspect of fruit growing has received but little attention. The marketing methods, too, suffer from unscientific handling of fruits, defective packing and want of cold storage during transit. High freight rates also obstruct the development of the trade.

For the last few years, however, considerable attention is being paid to the question of developing the fruit resources of the country. As Sir Harry Haig, then Governor of the United Provinces, pointed out some years ago, in a country like India where climate and tradition are alike favourable to fruit, being used as diet, it needs little propaganda to induce people to eat good fruits; and that if in suitable localities villagers could be encouraged to grow fruits for themselves and for local sale it would improve their material resources and their health. As it is, there is not enough fruit to go round to satisfy the needs of home consumption, not to speak of exports. But the potential fruit products of India, if properly developed, organized and husbanded, are rich and abundant. In selected areas—for example, in the Kumaon Hills—it should be possible to grow European fruits as well as anywhere in India. During the last few years fruit research has received a marked stimulus by grants from the Imperial Council of Agricultural

Research which is financing and supporting a co-ordinated scheme of work. The scheme embraces the hill fruit research station in the Kumaon Hills of the United Provinces for work on apples and other temperate climate fruits, one for mangoes and plains fruit at Sabour in Bihar, a plains fruits research station in the Madras Presidency, a special scheme of work on citrus fruits at Nagpur with special reference to the *santra* type of orange, another at Lyallpur with special reference to the malta type of orange and a scheme of experimental work on the cold storage of fruit at Poona where tests are carried out for all provinces. Indian States like Hyderabad, Baroda and Mysore are also devoting special attention to fruit research.*

The aim of researches on fruit crops has so far been to tackle the problems of the increase in the yield of crops, of extension and methods of planting, of application of manures, of preservation of fruit by cold storage or by canning, of evolving new strains and comparing the merits of existing ones. Improvement in the system of marketing and handling of produce by co-operative methods is also receiving attention. The official publication on *Agricultural and Animal Husbandry* gives details of the work that is being done on fruit production and research. We might, for the purpose of planning, set forth the two important desiderata of the situation as the propagation of the results of research for the benefit of the actual growers as well as those who are engaged in the trade, and the improvement of marketing. The Fruit Development Board of the United Provinces which by organising fruit shows and by other means has been doing good work for the development of the fruit industry of the Province has set an example of non-official work which might be copied by other Provinces. Fruit growers have also been organised into associations

*During the year 1933-34 and 1934-35, the Imperial Council of Agricultural Research made the following allotments, namely, Rs. 54,370 for cold storage research work and Rs. 5,545 for the experimental export of mango to Europe from the Presidency of Bombay, Rs. 2,500 for the preservation of fruits and vegetables and Rs. 7,020 for research on citrus 'wither tip' in the Punjab. Rs. 25,328, for a hill fruit research scheme in the United Provinces, Rs. 15,030 for fruit research work in Bihar and Orissa and Rs. 29,000 for establishing a fruit research station in Bengal. The following grants which form part of a co-ordinated scheme were also sanctioned for 1936, namely, (i) Assam fruit cultivation scheme, Rs. 37,000; (ii) Central Provinces orange scheme, Rs. 71,000 (iii) Punjab citrus stock grape vines scheme, Rs. 58,000; and (iv) North-West Frontier Province fruit cultivation and fruit marketing scheme, Rs. 27,000, making a total of Rs. 1,98,000.

in Bombay and the Punjab. As the result of pers which in their in Bombay, the chief railways of India had to ar sions in freight charges on some perishable fruits y be made:— from their growing centres to the Bombay markets on the transport of pineapples from Bihar to anized propa-co-operative interest of these associations should be , development by forming them as units of an All-India organisation Board of the not only co-ordinate research work according to the result of the requirements of the trade along with those of thgriculture in the consumers but will also at the same time provide a every province. pooling of experiences and the promotion of joint to disseminate furtherance of common interests. he provinces

The question of the improvement of marketing is of through-importance not only for those who are growing fruits on a ts. An cial scale but also for the considerable number of those who ctions comparatively small number of fruit yielding trees or groves whior at present run to waste. Special attention should be given to the development of these resources of the small people, that is, of people who live in the rural areas and follow some other occupation, mostly agriculture, as their principal means of livelihood. Exact statistics are not available, but it can be said without much error that if the fruit resources in the rural areas which are at present running to waste are properly organized for the purposes of trade, a considerable amount of latent wealth could be made available to the village people, and a good many of them might find employment in its production and distribution. The attention of the Imperial Council of Agricultural Research or of the Provincial Governments does not seem to have been directed towards this aspect of the problem. In fact, the commercial organization of the fruit industry as a whole is based on extremely primitive and wasteful methods. In Bombay, a Committee recently considered the question of the marketing of fruits and vegetables in the town of Bombay and its report on the *Improvement in the Marketing of Fruit and Vegetables in the Town of Bombay* throws light on the defective and primitive system which exists in our premier markets to-day. In this connection the lead given by the Madras Corporation who have opened an up-to-date fruit market at a cost of Rs. 2 lakhs is worthy of mention.

the question of marketing is the question of preservation of fruit, and the preparation of the fruits and fruit of work. The commercial use. This aspect of the question has only the Kumaon Hill been taken up by the Imperial Council of Agricultural other temperate preparation of grape juice and lemon squash in the at Sabour in Bihar giving very encouraging results; similarly the Presidency, a tomato pulp and the bottling of tomato ketchup and with special products on a commercial basis has also been attended Lyallpur with some success in the same province. The manufacture scheme of experimental bottling lime juice have been successfully demonstrated where tests are. The Indian Institute of Science at Bangalore has Hyderabad, Bangalore Research into the bottling of fruit juices. Further, to fruit researches have proved that the Alfonso mango can

Therved for nine weeks at 45°F and the Nagpur orange the (Pa) can be stored at 40°F for about three months.

me. All this shows that an important aspect of agricultural-cum-industrial research relating to fruits is now receiving attention throughout the country. While the value of the good work that is already being done need not be minimised, it is evident that there is a great room for organising these researches on a co-ordinated and very much expanded scheme with adequate grants from the Central as well as Provincial Governments. Fruit farming, we repeat, is an economic necessity in a country like India. It is well-known that fruit farming goes with a thicker population "because it finds occupation for more persons than less intensive and very primitive forms of farming, and it produces foodstuffs of greater value per acre than ordinary arable farming."* It is proposed for this reason that the regional units entrusted with the task of the planning of the fruit industry and the disbursement of any grants made whether by the Government or by the planning authority, should be the regional committees as proposed in the chapter on the Agricultural Plan. The technical and larger commercial aspects of the industry should be under the charge of the Fruit Development Associations

*See Pearson: *The Growth and Distribution of Population* (1935) p. 69. Dr. Pearson gives the following interesting example to prove his point: "For example, on the Worcester-Gloucestershire borders there is a farm of 130 acres which has only 5 inches of soil on top of lime stone. It would be a strain to find employment for 4 workers on these if it were worked as an arable farm. But since it has been turned into a fruit farm it gives employment to 40 men, women and boys permanently, together with the available population of two villages in picking time."

which should be organized on a provincial basis and which in their turn should be subject to an All-India Association.

To sum up, the following concrete suggestions may be made :—

(i) *Propaganda* :—By propaganda is meant organized propaganda on scientific lines. The formation of fruit development associations on the lines of the Fruit Development Board of the United Provinces (which was organised mainly as the result of the untiring efforts of Mr. R. G. Allan, Director of Agriculture in the United Provinces Government), may be suggested for every province. It should be the duty of these associations not only to disseminate knowledge of fruit culture to the fruit growing areas of the provinces and to the general public but also to conduct a campaign throughout the province to popularise the eating of more fruits. An important commercial aspect of the functions of these associations should be to organize the production and preparation of fruits for export to other countries.

(ii) *Planning of Fruit Production* :—This should be done, in the first instance, by the regional committees proposed in Chapter X. The Central Board of Agriculture should be the final co-ordinating authority which should act through its Fruit Culture Section. The Fruit Development Associations should also have their research sections where the technical processes of the industry should receive due attention.

(iii) *Marketing* :—The problems of marketing may also be attended to by the Fruit Development Associations which should receive adequate grants from the Provincial Governments for the purpose. In all important fruit growing areas, there should be one or more marketing officers for the development of local markets and acting as marketing intelligence advisers to the food growers. Both in America and England fruit marketing associations play an important part on the commercial side of the industry. The marketing section of the Fruit Development Associations should perform functions analogous to those of the fruit marketing associations of America or England.

(iv) *Transport Facilities and Freight* :—It has been frequently pointed out by the fruit trade as well as by agricultural experts that the existing scale of railway freights on all parcels connected with

fruit is abnormally high. The present scale of railway freight is half the luggage rates on passenger trains. It is on account of this high level of freights that a great deal of the fruit resources of the country is wasted. Similarly, the arrangements for the transport of fruit are far from satisfactory. If it is not possible to speed up the trains, at any rate in the hot weather, arrangements should be made for the introduction of cold storage vans and for the speedy booking of parcels during the fruit season from June to August.

(v) *Preservation of Surplus Fruit*.—As has been pointed out, the question of surplus fruits and the preparation of fruit and fruit products for commercial use has only been recently taken up by the Imperial Council of Agricultural Research. Almost all the fruit growing countries with the exception of India have developed the art of preserving surplus fruits in cans and of making jams, jellies, juices etc., with which they not only satisfy the needs of the domestic markets but which they export to other countries as well. India has only recently started factories for the purpose. At present she imports about three crores of rupees worth of canned fruit every year, and the demand has gone forth for the protection of the local fruit industry against foreign imports. Before, however, the local industry can justify its claim for protection, it must sufficiently organize itself in order that it might benefit by protection when it is given. Fruit preservation experiments should be immediately initiated and the planning authority should encourage the establishment of well-equipped factories for the successful preservation of fruits.

§ 2

FOREST PRODUCE.

Forests provide the cultivator with fodder for his livestock, with fuel and timber for domestic consumption, and provide protection for soils liable to erosion. So far as the provision of fodder is concerned, the forests fulfil the double function of acting as fodder reserves in times of scarcity and famine and of providing annual supplies of fodder to numerous cultivators living in the neighbourhood of forest areas. As regards the supply of fuel, the Royal Commission on Indian Agriculture were of the opinion that the possibilities of providing a good substitute for cow-dung

cakes—which represent in India a huge economic waste of the good manure—should be thoroughly explored. The question of the development of forest industries such as the making of paper pulp from bamboos, the extraction of turpentine, of oils gums and resins, and the dyeing and tanning materials from forest trees and plants is also of much importance from the point of view of the agricultural economy of the country. The total area under forest is about 89 million acres. This represents about one-seventh of the total area of British India. A good part of the area that had been originally under forests has now been taken up by agriculture, while a considerable denudation of forests had taken place due to the action of rivers.* The importance of the preservation of forests has been recognised only recently, though even now the full development of the economic possibilities of forest resources in India has not been fully achieved. The Dehra Dun Institute has no doubt applied itself to the different aspects of forest research in its different branches. The Silviculture Branch is concerned with plant genetics; the Botany Branch is concerned with the identification of specimens, maintenance of herbariums and botanical gardens, supply of seeds and mycological work; the Entomological Branch is connected with the parasites and insects; the Economic Branch is concerned with wood technology including the identification of woods, timber testing, wood seasoning, wood preservation, minor forest products and paper pulp; and the Chemistry Branch is concerned with the general study of the chemistry and commercial uses of the minor forest products and the study of forest soils. Industrial enterprise, however, has still to relate itself to the results of the research which is being carried out at the Dehra Dun Institute. To take a single instance, the report of the Institute for 1935-36 points out the commercial possibilities of plywood. It even suggests the starting of a plywood mill in Calcutta. "The return," the report adds, "will probably be small to start with, but it is beyond question

*Thus Mr. Calder writes in the *Field Sciences of India* (1937): "The Gangetic Plain botanical province has through the influence of man in the course of untold generations lost much of its primeval appearance. It is agriculturally the richest part of India and is now to a very great extent given over to cultivation. With the exception of the Sundarban part, the flora, therefore, is not now what came from or what it would revert to if the hand of man were removed. There are records of its being covered at one time by vast forests of *Sal* which have now all but disappeared except on the slopes and at the base of its mountain boundaries." p. 83.

that plywood is foremost amongst the most popular constructional materials of the present day, and that anyone making a sound beginning now will reap the benefit in ample measure in the not far distant future."* The report also points to the improvement of the new furnace kiln achieved in the Seasoning Section of the Institute and states that "it is now possible to say that a kiln of this type can be built in this country for less than Rs. 2,000 and since the kiln is easy to operate and cheap to run, it is expected that it will be popular with small cabinet and furniture makers." The Seasoning Section is also reported to have evolved a new type of electric moisture meter which can be made for about Rs. 150 against imported instruments of this kind which usually cost Rs. 800 or more. Apart from these specific instances pointing to the commercial value of forest research, there is undoubtedly room for a general co-operation between forest research and those industries that make use of forest materials. The paper mills, for instance, have already been making increasing use of the facilities obtainable at the Research Institute at Dehra Dun, particularly in its Paper Pulp Section.

The commercial utility of research has also been proved by the discovery of the new wood preservative, Ascu. It is reported that the North-Western Railway had 10,000 softwood sleepers treated with this preservative for a durability trial and the cost of the treatment was found to be only 7as. 4 pies per sleeper as compared to the present creosote-crude-oil treatment which works out at just over one rupee per sleeper, thus bringing off a saving of 50 per cent by the application of the new preservative. Another industrial possibility is revealed in the experiments that are being conducted on the purification of bamboo pulp for use in the production of artificial silk. The Report of the Institute also states that the grasses *ramsar*, *munj* and *kans* obtained from the New Forest experimental plots were tested for their paper making qualities and were found to give economic percentage yields. The *kaliserri* bamboo has been found to be quite suitable for the manufacture of good writing, printing and wrapping papers, while the clean and good quality grades of writing and printing papers and boards have also been prepared from mixtures of grass and bamboo pulps.

**Forest Research in India*, 1935-36, p. 4.

What is felt to be necessary is that these experiments should be carried out on a more extensive scale and encouragement should be given to firms wishing to exploit the results of the researches for commercial use. In this connection a reference may be made to the necessity of collecting full information about minor forest produce, for it may be assumed that the exploitation of these products can be carried on along with agricultural operations or in areas where a considerable number of the population remain idle or under-employed throughout the year.

It only remains to be pointed out that there is nowhere such absence of co-ordination in regard to the administration of the economic resources of India as with regard to that of her forest wealth. We can do no better than quote the trenchant remarks made by Mr. R. M. Gorrie of the Indian Forest Service in a paper presented by him at the second meeting of the Animal Husbandry Wing of the Imperial Council of Agricultural Research (1936):—"The revenue department is anxious to collect its revenue, the forest department to grow trees, the agricultural department to cultivate better paying crops, the veterinary department to rear more stock, the local landowner to keep a stud bull, the irrigation department to find more canal water, the public health authorities to improve the drinking water These are all competing for the areas which should be the natural fodder reserves of the province" The different departments, in other words, often move at cross-purposes. What is required is that there should be a central co-ordinating authority. This will be provided by the Central Board of Agriculture acting through its appropriate sections. The Board will supply the general co-ordinating and directive force.

§ 3

DAIRY PRODUCTS.

The dairy industry has already been referred to in the Chapter on Animal Husbandry. Attention will be paid in this section to the employment that the production of milk and other dairy products can give to the rural population of India.

Milk.—The total output of milk in India has not been accurately ascertained. Messrs. A. Olver and M. Vaidyanathan have roughly

calculated the annual production of milk in India to be over 1,000 million maunds. Another survey puts it at 700 million maunds. The monetary value of this output is said to approximate Rs. 200 crores. Compared with the other countries, India stands second to the United States of America in the volume of her milk production. She produces over 4 times the output of Great Britain, over 5 times that of Denmark, over 6 times that of Australia and over 7 times that of New Zealand. In spite of this huge output of milk the consumption of milk in this country "falls to the lowest place among those countries for which statistics are available."* The daily consumption of milk in India amounts to 7 ozs. *per capita* as compared with New Zealand (56 ozs.), Denmark (40 ozs.), Australia (45 ozs.), U. S. A. (35 ozs.) and Great Britain (39 ozs.). The results of the recent investigations carried out by the Imperial Council of Agricultural Research in 7 selected areas have already been explained in Chapter XII. The investigations revealed the fact that only 20 per cent of the total population of India receive anything like an adequate quantity of milk per head per day. Dr. Wright made the following calculations regarding the milk requirements of India. After pointing out that milk is the sole source of "first class" protein, he calculated that the Indian standard of consumption requires at least 16 grams of "first class" protein (as compared with the European standard of 37 grams) which is available in a daily intake of at least 15 ozs. of milk.† The Indian standard of 16 grams as assumed in the above calculations is admittedly very low and yet, even on this standard, India requires immediately at least to double her existing consumption of milk. It is, however, pointed out that even when the production of milk is doubled, it should be made available to the rural people at a price which they would be able to afford. Here we come across the necessity of combining agriculture with animal husbandry, or to be more precise, of promoting a system of mixed farming under which the production of animal products such as milk is carried on side by side with a system of cropping in which leguminous fodder crops take an important place, and in which full use is also made of the increased quantities of cattle

**Report on the Development of the Cattle and Dairy Industries of India* (N. C. Wright) 1937, p. 1.

†F. A. Stockdale: *Report of the Agriculture of Nigeria, the Gold Coast and Sierra Leone*. (1936), Colonial Advisory Council Publication No. 270.

manure. "In this way," Dr. Wright observes, "soil fertility is maintained, and the resulting increase in the crop yields indirectly off-sets any increase in the cost of production of milk." The results of such a system of mixed farming adopted in another backward country, Nigeria, have thus been summarised by a writer whom Dr. Wright quotes in his Report: "Larger yields of crops are being secured and the farmers, in addition to having more ample food supplies and larger quantities of economic crops for sale, are also being provided with supplies of animal products such as milk and butter for their consumption and sale".* The possibilities of introducing mixed farming have, however to be investigated in this country.

While mixed farming is no doubt calculated to establish a better relationship between agriculture and animal husbandry, the question of cheapening milk production should be tackled from all possible points of view. It is, for example, evident that by a good management of cattle, the yield of milk can be greatly increased. The improvement of cattle by means of scientific breeding and the provision of a system of regular cow testing and milk recording will also encourage the bringing up of better cattle. These points have already been presented in Chapter XII and need not be re-iterated in any great detail here.

Other Dairy Products :—Statistics about the indigenous milk products of India inclusive of milk are given on the next page.

The insufficiency of the existing supply of milk in India is a limit to the starting of dairy industries on western methods. The conditions obtaining in the rural areas provide another limiting factor. The first condition, therefore, for the establishment of dairy industries in India on anything like the western standard is that the existing supply of milk must be sufficiently increased not only to provide for the full requirements of the local population but for creating a surplus which could be utilised for

* "While the argument for increasing milk consumption has so far been based on the requirement of 'first class' protein, the value of milk as a 'protective' food must not be lost sight of. With a vegetarian diet derived from a very limited variety of foodstuffs, there is a serious risk of deficiency of both minerals and vitamins. An increase in the consumption of milk would go far towards correcting the present deficiency of protective elements in Indian dietaries" Dr. N. C. Wright: *Report on the Development of Cattle and Dairy Industries in India* (1927) p. 5.

dairy industries. It has been pointed out by Dr. Wright that the total imports of dairy products, converted to its milk equivalent would represent 15 per cent of the country's total output of milk. Considered from the point of value, the total imports of dairy products into India is about Rs. 78 lakhs or less than 1 per cent of the value of the milk and milk products produced in India.

TABLE

Total value of milk and milk products produced in India.

Product	Maunds of milk equivalent (millions)	Retail value per maund of milk	Value crores of rupees
		Rs.	
Liquid milk	215.0	5	107.5
Ghee	364.0	2 ³ / ₄	100.0
Khoa	52.2	7 ¹ / ₂	39.2
Other indigenous milk products	16.7	13	22.3
Dahi (curd)	26.2	7 ¹ / ₂	19.7
Butter	10.3	3	3.0
Cream	2.8	3 }	1.7
Ice-cream	2.8	3 }	
	690.0	...	293.4

It may, therefore, be assumed that as matters stand now there is no great urgency of devoting attention to the problem of starting dairy industries in this country until the existing milk production is more than doubled. So far as the conditions obtaining in the rural areas are concerned, it may be noted that unless the methods of the processing of milk and milk products and of transport are improved, any attempt to promote the establishment of dairy industries would only involve the waste of a part at least of the existing milk supply which India can ill-afford at the present moment.

In these circumstances the planning authority should as a matter of initial programme be well advised (1) at least to double the existing production of milk by all available means, (2) to improve and standardise the quality of such indigenous dairy products as *ghee*, *butter*, *khoa* and *dahi* and (3) to undertake the starting of creameries on the western model only when the requirements indicated in (1) and (2) above have been satisfied.

The most important problem regarding the marketing and sale of milk and milk products is the question of adulteration. The problem may be partly met by legislation in so far as impure or inferior quality products may be made to pass for the genuine articles. For instance, in some cases vegetable stuff is used to adulterate the genuine product and the mixture is sold under a name which is apt to deceive the customer as to its real origin and composition. In western countries the difficulty has been met by providing legislation which prevents misrepresentation. Similar legislation may be recommended for India regarding such milk products as *ghee* and its vegetable substitutes. The procedure at present followed for the determination of the standard of purity for such products is costly and dilatory. It is evident that to admit of wide and quick application the tests for the determination of the purity of these products should be simple as far as possible and easily available to merchants and consumers alike. Dr. Wright points out that at present private merchants are charged exorbitant fees if they obtain the assistance of official analysts in the examination of their *ghee*, while the length of time taken by such examination makes purchase on a quality basis almost impossible.

The absence of easily available tests for the purity of *ghee* and other milk products also points to the necessity of organizing improved marketing facilities. There seems to be in many places an absolute lack of co-ordination between the areas of production and the consuming centres. It is said that there are producers of *ghee* who are more than 100 miles away from the nearest market. One consequence of this handicap is that the producer of *ghee* either has to store his output for prolonged periods with the consequent deterioration of quality or has to deal through middlemen who fail to give him a fair price and who frequently adulterate it in order to increase their profits or reduce their price. The regional committees as proposed in Chapter X will have to provide additional markets for every important *ghee*-producing area. It is also complained that since the facilities for the testing of *ghee* are inadequate in the mofussil areas, good quality *ghee* is sold at the same price as the inferior stuff. Naturally under these circumstances, there is no incentive to produce the better quality article. These difficulties may be removed, as Dr. Wright has suggested, by the establishment of *ghee* grading centres

in suitable local areas. The question of ensuring the purity of *ghee* appears to be insistent not only from the point of view of domestic consumption but also for maintaining and developing the export market. It should be a matter of concern that the total value of the exports of *ghee* from India fell from Rs. 38 lakhs in 1928-29 to a little over Rs. 14 lakhs in 1934-35. A considerable part of the fall in the value of these exports is accounted for by the fall in the price of *ghee* during this period, but there has been at the same time a fall in the quantum of exports, from 38,605 cwt in 1928-29 to 25,526 cwt in 1934-35.

On the question of country butter and creamery butter, the total production is a very small percentage of the total output of milk products (*ghee* and butter). The output of creamery butter again is a small percentage of the output of the country butter. It is, however, evident that the demand for creamery butter is increasing. This is reflected not only in the increased imports of creamery butter but also in the increased production of local creamery butter. At present in spite of the increased consumption, creamery butter is a dairy product of minor importance, but it is evident that a large potential market for such butter exists in our country with the improvement in the standard of living and of the tastes of the population.

As regards other indigenous milk products of India, they are from the point of view of their output, of relatively minor importance. *Dahi* and *chana* are indeed widely used and is undoubtedly a source of income to a large number of producers. The methods of manufacture of these products follow the most primitive lines. Dr. Wright is of the opinion that the quantities of milk employed in the manufacture of the desiccated products are clearly uneconomic from the point of view of both labour and fuel. The following observations of Dr. Wright will prove of interest; "It appears possible that its manufacture could be placed on a village industry basis or even on a factory basis. The problems involved are largely engineering problems; the provision of a plant capable of handling the larger outputs while retaining those essential heating processes which give the product its characteristic flavour. It is possible that some type of hand-drier might be employed, though existing types of such plant would need very considerable modification if

they were to meet the special requirements of *khoa* production. The output of the product, however, is sufficient to justify considerable outlay in determining the feasibility of such a development."* Similarly, with regard to the use for separated milk which at present is lost as a source of nutriment, Dr. Wright considers that the possibility of utilizing separated milk in the manufacture of indigenous milk products would repay further investigation. By separated milk is meant the by-product of the mechanical separation of cream. At present a considerable proportion of the total output of separated milk which has been estimated at a little over one million maunds is used for the manufacture of casein for export. There is already a valuable import trade in condensed and dried milks and the suggestion has been made that a part at least of the present output of separated milk might be used for the manufacture of these products exclusive of the milk foods of patented brands, the total imports of sweetened and unsweetened milks, milk powder and certain other miscellaneous milk products amounting roughly to 200,000 cwt, and their value is about Rs. 50 lakhs, representing about 700,000 maunds of fresh milk. Not only can India capture the whole of this market but she may even find it possible to export milk products to other countries and capture the markets, for instance, of Ceylon, Malaya, and other Far Eastern countries, South Africa and Eastern Africa. The figures given by Dr. Wright† are certainly impressive enough to justify serious consideration of the possibility of establishing condensing and drying plants in India. It is, however, rather discouraging to find that after carefully considering all the relevant considerations Dr. Wright‡ comes to the conclusion that the idea of starting condensed milk or milk powder factories in India is only superficially an attractive one but that "in view of the exceptional difficulties with which the Indian dairy industry is faced, I am quite certain that any considerable expenditure is not meantime justified."‡ He, however, adds that if condensed and drying factories are ultimately to be built in India, they should be erected by firms who already have a long experience of the trade and an established Indian market

*N. C. Wright : *Report on the Development of the Cattle and Dairy Industries of India* (1937), p. 46.

†*Ibid*, p. 50.

‡*Ibid*, p. 53.

for their products. The planning authority, therefore, should get into touch not only with those who are or may be willing to invest sufficient capital in the establishment of factories producing these products but also with the trade in order to ensure a stable market for these products. At the same time, there should be a detailed survey of the main milk producing areas in order to ensure a regular supply of separated milk at convenient centres to enable such factories to get their necessary supplies. Overshadowing all these requirements, there must stand out the paramount importance of safeguarding the milk consumption of the rural population. Nothing should be done which might either immediately or ultimately have the effect of reducing the available quantity of milk per head of the population. It is only when the full requirements of the local consumption of milk have been satisfied that the question of using the surplus milk for the starting of factories for the production of milk products could be seriously considered.

§ 4

FISH CULTURE.

The culture of fish is another occupation which has great commercial possibilities in a country like India but which is sadly neglected. Interest in fish culture may be said to have dated since the seventies of the last century. It was about that time that Mr. H. S. Thomas, a Madras Civilian and Dr. Day of the Madras Medical Service, subsequently Inspector-General of Fisheries in India, had urged the importance of developing the fishery resources of India as an important source of food supply. Sir F. A. Nicholson had proposed in an official note in 1899 on the desirability of developing an Agricultural Department in India that a Bureau of Fisheries should be established as an important branch of that Department. Since then departments of fisheries were established on a provincial basis but the organisation of the departments left much to be desired. In any case the inadequacy of the resources placed at the disposal of these departments has been a bar towards the development of fish culture on a sufficient scale in this country. The Government themselves do not seem to attach much importance to this subject so that whenever there has been need of retrenchment, the axe has fallen heavily on these departments.

Every civilised country to-day possesses a fishery industry. Even as long ago as 1907, the fishing industry was considered to be the third important industry in India. Pisciculture presents unique problems to India. It is rendered difficult on account of her tropical and dry climate. It is also a fact that the peculiar habits of many varieties of fish are still largely unknown. The customary habits and practices of the country, the nature of her rivers and the irrigational use made of them further complicate the problem. To render pisciculture successful, considerable research and experiment will therefore be necessary. This means that both the Central Government and the Provincial Governments should not only take an intelligent interest in the problem but also provide adequate funds for the development of the fish resources of the country. The fisheries in most of the tanks and rivers belong to the Crown and this may be considered an additional reason why the government should undertake their scientific development.

In fact, if we study the way in which the governments of the advanced countries of the West, of America and of Japan have been assisting the development of the fish industry within their respective areas, the negligence of the government in India will come out in bold relief.

Some of the methods by which these governments assist the development of their fishing industries may be briefly indicated. There is, first of all, direct assistance by means of bounties and subsidies.* These relate to fishing operations, exports, construction and repair of vessels, freezing establishments and other cognate matters. The total amount of direct assistance is, however, small compared to the assistance that is given indirectly. The bulk of the governmental aid accorded in these countries falls within the scope of help granted in an indirect manner. This includes the promotion of the home market, grant of preferential rates of transport and other methods. Other forms of governmental aid include Facilitation Services and Administrative Services. The former consist of research and investigations, fish propagation and conservation, port facilities and other methods.

*The United States Tariff Commission: *Report to the United States Senate on subsidies and Bounties by Foreign Governments* (Report No. 16), 1936.

(a) *Direct Assistance*.—The meaning of direct assistance is that the government bear part of the cost of fishing operations. The grants are most flexible in Japan where in certain cases they may even cover the total costs. Fishing bounties are paid also in Canada, Germany and Japan. Cold storage facilities are subsidized in Canada, Norway and Japan, while the grants for the construction or repair of vessels are allowed in Germany, Newfoundland and Japan. In Japan, the grants are made only through the associations of fishermen.

(b) *Indirect Assistance*.—The promotion of the internal market is a recognized governmental obligation in Canada, Denmark, France, Germany and Japan. Loans are granted to fishermen from public funds in Canada, France, Germany, the Irish Free State (Eire), Italy, Norway, Portugal and the United Kingdom. In many cases, the government instead of directly making loans to fishermen guarantee the loans which are raised from private sources and are made available to fishermen through lending agencies. This is the practice in Canada, United Kingdom and Norway. As regards the grant of preferential rates of transport, these concessions are allowed to fishermen as well as fish products, for example, in Canada, Newfoundland and Germany. In Canada, certain fish collection services are carried on entirely at the government's expense. In Germany, the rates of freight charged over the railways are 20 per cent to 40 per cent below the usual freight rates. The other methods of indirect assistance include the holding of prize contests, inspection etc.

(c) *Other Governmental Aid*.—Every country has endowed research. So far as port facilities are concerned, these have been found to form about 35 to 78 per cent of all monies expended for the benefit of fisheries in Japan.

This brief outline of the measures taken by the different countries of the world for the promotion and development of the fishing industries will clearly bring out the backwardness of the Government of this country. Japan may in this respect (as in many others) be taken as an example to India. That country spends over 60 lakhs of rupees for the promotion of the fishing industry as compared to Rs. 45 lakhs spent by Canada. Referring to Japan, Sir Frederick Nicholson thus observes : "Japan suggests certain cheap and immediately possible methods, open to the poorest man who owns a patch of

water, to every villager who has a tank or ponds, to the owners of many thousands of acres of paddy fields and to the controllers of thousands of acres of fresh water reservoirs and canals."* Sir Frederick accordingly recommended experiments in culture in fish farms and hatcheries and stocking of tanks, canal, ponds and even of paddy fields and wells from fry bred in hatcheries and ponds at suitable centres.

It may be pointed out in this connection that Nature has placed India in a very favourable situation. The statistics quoted by the Madras Fisheries Bulletins may be taken as an instance. The average quantity of fish landed by a fisherman in the West Coast of the Madras Presidency works out at seven tons in a poor year, taking the Census of 1921 as the basis. This may be compared to the average of 3 tons landed by a Japanese fisherman. The Scottish Fishery Report for 1926 gives over 12 tons per fisherman. "If the Malabar fisherman with his primitive methods, afraid to go out of sight of his hut, can capture in a poor year more than 50 per cent of the quantity caught by Scottish fishermen, using the most powerful and up-to-date methods and vessels and able to choose the most profitable fishery grounds, it must be admitted that the Malabar coast is at least as productive as the best waters open to Scottish fishermen."† Experiments made with trawlers between 1900 and 1930 in Bombay, Ceylon, Bengal and Madras point to the same conclusions.

The problem of improvement may be approached from the point of view of inland fisheries and of marine fisheries. Though the development of inland fisheries seems to be the immediate concern to the people of India, the commercial possibilities of marine fisheries cannot be ignored. We omit for the time being such specialized fisheries such as pearl and *chank* fisheries.

Inland Fisheries.—The following steps may be recommended for the development of the inland fisheries of India:—

(i) There should be a complete survey of irrigation tanks and other inland waters, district by district, those found suitable being

See Sir F. Nicholson: *Note on Fisheries in Japan*, paras. 116 to 212.

†See paper contributed by Dr. B. Sundara Raj to the 25th session of the Indian Science Congress.

arranged in groups round fish farms and centres where breeding and rearing may be carried on for distribution of the fry annually to tanks and channels to reinforce their annual stock of fish.

(ii) The gradual acquisition of the fisheries of the irrigation tanks and other inland waters with a view to stocking them annually with improved varieties of food fish and thereby augmenting the fish supply.

(iii) Immediate steps should be taken for the improvement of the indigenous fishing boats and gear.

(iv) There should be a Fisheries Training Institute in every Province with local fishery schools for teaching modern methods of fish culture to the fishermen and their children. The Departments of Industries should make it a practice of issuing bulletins in the vernacular for use by these schools and their pupils.

(v) For the purposes of advanced training, scholarships should be awarded to enable educated youngmen to receive training in catching, curing and pisciculture from foreign countries.

(vi) The trade should be organised on a co-operative basis.

(vii) The transport of fish should be improved, not only by the building of good roads, but also by the quickening of the existing systems of transport and by the provision of cold storage facilities.

(viii) Suitable government grants should be freely available on the lines of foreign countries.

Marine Fisheries:—For a country with such a large coast line as India, there are great commercial possibilities of marine and deep-water fishing. In 1925-26 Madras exported 177,790 maunds of cured fish to Ceylon. This export trade can be considerably developed under a suitable system of State assistance. The following steps may be recommended for the promotion of the sea fishery industry:—

(i) Experiments to devise methods and implements for fishing in deep sea. As Sir F. Nicholson had suggested, fishing experimental stations should be established of which one of the functions should be to build or cause to be built on their designs small (5 to 10 tons) sea-going fishing boats. On this question very valuable evidence has been submitted by Dr. Sundara Raj, Director of Fisheries, Madras, to the Committee on Fisheries in Madras (1929).

(ii) Aquariums should be started for conducting research in marine biological stations.

(iii) Trained and expert personnel should be appointed to organise the industry of deep sea fishing, and scholarships should be awarded to deserving youngmen for training abroad.

Other Fishing Industries :—Of the other industries connected with fishing, reference may be made to the industry of manufacturing canned fish. Madras has had an unfortunate experience of this industry as signified by the failure of the Fisheries Cannery at Chaliyam. Evidence was, however, submitted to the Madras Committee of 1929 showing that the cannery failed for reasons that were largely avoidable and not because the industry had no possibilities in India. In this connection the following figures given by the Committee of the imports of tinned or canned fish into India may be reproduced :

TABLE

Imports of tinned or canned fish into India.

Year	Quantity cwt.	Value
		Rs.
1921-22	10,998	8,49,980
1922-23	30,982	18,97,303
1923-24	24,500	13,31,247
1924-25	42,762	21,37,022
1925-26	63,303	27,76,216

These figures suggest that not only is there a good market for the development of canneries in India, but that the market for canned fish is fast developing in the country. Of course in a tropical country like India the development of this industry is beset with peculiar difficulties. But with the aid of science these difficulties ought to be overcome.

In conclusion, it needs only to be repeated that there is a great future for the fishing industry in India. It is well known that fish constitutes by far the most important item of food in the non-vegetarian diet. A properly organised industry will not only make available a larger supply of fish for food purposes but it will lead to a much needed reduction in the price of fish so as to make it available even to the poorest of people. There is no reason to suppose that a glut in the market will ensue if the fish resources of the country

are fully exploited. There is much potential demand which, so far as one can see, will take a very long time yet to be fully satisfied. The object of the fishery industry should be to develop the fisheries, so far as the inland waters are concerned, by protection, stocking and culture. The chief need is the prevention of blind destructive methods of fishing and the increase and improvement of stock by scientific fish farming. As matters stand at present, not only are the methods followed by fishermen primitive and inadequate, but the fish resources are not fully worked. The neglect of sea fisheries has already been referred to. There is a similar neglect even in regard to deep water fishing in the inland waters. The Madras Fisheries Department which, incidentally, has been very enterprising since its establishment in the beginning of this century has been conducting experiments to devise methods and implements for fishing in perennial deep-water tanks throughout the year, as such methods are wholly wanting and the fish from such sources are entirely lost to the fishermen and the consumers. It is evident that, if properly worked, the fishery industry can be pursued as a useful adjunct to agricultural operations. It is also one in which the educated young men of the province might be profitably interested, for the industry satisfies all the standards by which the commercial success of a business is usually measured. It is, however, essential that the Government of the country should also be more actively interested in the development of the industry than they have so far been.

CHAPTER XIV

THE HANDLOOM INDUSTRY AND SERICULTURE

§ 1

THE HANDLOOM INDUSTRY.

The handloom industry of India deserves separate treatment. Its significance to the economic life of India justifies it. Full statistics relating to the handloom industry are unfortunately not available. It is, however, well-known that next to agriculture handloom gives employment to the largest number of persons in India. The reasons are partly historical and partly the fact that the handloom industry is admirably suited to the agricultural economy of the country. It can be, and in practice is, followed as an occupation supplementary to agriculture. It is well-known that agriculture engages the attention of the cultivators and their families only for a part of the year and that there are many months in the year when they have no work to do. Thus, according to Mr. Calvert's calculations, the work done by the average cultivator in the Punjab does not represent more than 150 days' field labour for twelve months. In other words, if hand weaving and hand spinning are followed as an occupation supplementary to agriculture, a considerable part of human labour that would otherwise run to waste would be put to productive use. Those who look askance at the competitive strength of the handloom with the power-loom lose sight of the fact that as a spare-time occupation, the handloom not only can compete with the power-loom but is perhaps the only available means of providing an alternative occupation to the millions of Indian cultivators during the weeks of enforced idleness. Unlike the power-loom, it can be worked at home in family surroundings and under a healthy moral atmosphere. It accords very well with the sentiments of the people. The question of competition with the power-loom does not arise because the products of the handloom can

be used by the very people who produce them, and when there is a surplus, they may find a local market. The initial outlay on a handloom is very small, about Rs. 20 per loom. Thus looking at the question from every possible angle, it would not be wrong to say that the handloom has a distinct place in the economy of India. It supplies at present about 25 per cent of the cloth requirements of India and about 40 per cent of the total cloth produce in the country.* No cloth, as Sir Daniel Hamilton once pointed out, can be cheaper than that which costs only the price of the raw materials. Where the cultivator and his family clothe themselves with the fabric woven by their own labour, no question of competition with the power-loom need arise.

It need be hardly added that the position of the handloom industry in the years past was much better than it is now. We need not dwell on the researches of such well-known authorities as the late R. C. Dutt or the historian H. H. Wilson. But it may be pointed out that even towards the close of the nineteenth century and the beginning of the twentieth, the handloom was consuming a very much greater quantity of yarn than was consumed by the mills. It was during the last War that the consumption of yarn by the handlooms began to fall off but with the great impetus that was given to the industry by the *khaddar* movement initiated by Mahatma Gandhi, the handloom began to recover its ground until to-day it has once again established itself on the basis of progress. The Provincial Governments have now accepted a positive policy of assistance for this industry mainly in the direction of research, training and marketing.

It is evident that the future of the handloom industry in so far as it is intended to establish it on a commercial scale is definitely linked up with the problem of specialising in certain lines of production in which it can profitably be engaged. The Bombay Milowners' Association had urged before the Indian Fiscal Commission that if properly organised, handlooms could be made to compete profitably with the products of the power-loom in certain styles of cloth. That the relation between the mill industry and the handloom industry need not be one of competition but, on the contrary,

*See M. P. Gandhi, *The Indian Cotton Textile Industry* (1938 Annual), Appendix B.

might be one of helpfulness represents the correct reading of their true relationship.* Actually the handlooms provide a great market for mill-spun yarn. Many discerning observers have recorded their opinion that probably the greatest improvement in the handloom industry has been the provision of ample quantities of mill-spun yarn of all counts and of regular twist and strength in substitution for the irregular and usual coarse hand-spun yarn of former days. Similarly, Dr. Radhakamal Mukerjee has expressed the opinion that the handloom does not compete with the mill for it produces special kinds of goods which cannot be woven in the mills and utilizes yarn which cannot at present be used on the powerloom. He also supports it as a form of village industry which gives employment to local weavers and workers and provides a means for the investment of village capital.

Hand-weaving thus can be made into an economic proposition provided the weavers get a good supply of raw material, proper technical guidance and facilities for marketing their products. So far as the question of hand-spinning is concerned opinion does not seem to be altogether favourable to its value under modern economic conditions. There have been writers who have spoken of the efficiency and strength of hand-spun yarn while a more numerous section of critics have spoken disparagingly of such yarn. It is well-known that while hand-weaving has made considerable progress in recent years, the progress has been achieved with the help mostly of yarn manufactured by the mills. In other words, cloths made of hand-spun yarn constitute a very small proportion of the total quantity of hand-woven cloths. No doubt the Gandhian movement has given a great impetus to hand-spinning by popularising the *charkha*, and the efforts of the All-India Spinners' Association have also been directed towards the same end. But it is problematic how far the yarn spun by the *charkha* can stand the competition of mill-spun yarn. No doubt individual spinners here and there might turn out yarn of very fine quality, but the main difficulty is not so

*The *possibility* of competition must not, however, be ignored. Mr. Gandhi (*op cit*) refers to the imposition of the import duty of $1\frac{1}{4}$ annas per pound of yarn which works out to over 25 per cent of the cost of yarn in respect of coarser counts. The mills were benefited by this duty but the handloom weavers had to suffer because the mills raised the price of the yarn manufactured by them in sympathy with the rise in the price of foreign yarn. The prices of yarn and of cloths ruling before and after the imposition of the duty (May, 1934) bear out this criticism.

much whether fine yarn can be produced by the *charkha* as whether it can be produced in sufficient quantities on a commercial scale so as to displace the mill-spun yarn. To some extent, the poor quality of the cotton used by the spinners is responsible for the poor quality of the yarn. This is a real handicap and the attention of the planning authority should be directed towards securing for the spinner an adequate quantity of good cotton. What, however, might fail as a commercial proposition might be a success when the question of competition is eliminated. In other words, in so far as hand-spinning may be considered to be a spare-time occupation for the agriculturist and his family, the yarn being used in the manufacture of cloths meant for their own consumption or only for a restricted local sale, hand-spinning might become a profitable economic proposition. Unfortunately, this is a matter on which there is an absolute lack of reliable statistics.

A few words may now be said about the help that the planning authority can give for the encouragement of the handloom industry. Hitherto the different provincial governments have been following their own plans of assisting the industry subject to some attempt by the Central Government at co-ordination. The question of the handloom industry has been fully discussed at the successive Industries Conferences held during the last few years. These Conferences have disclosed the necessity for a more effective co-ordination of the efforts that are now being made to improve the handloom industry. At the 9th Conference held in 1937 the progress made by the different provinces was reviewed. Madras disclosed the fact that the handloom industry was suffering due to the competition of the weaving mills and the general state of indigence of the handloom weavers. Mr. V. V. Giri pointed out that the crux of the problem was marketing. The scheme of improvement adopted by Bombay comprised the organisation of District Industrial Co-operative Associations which were started for the purpose of supplying improved appliances to the weavers on a hire-purchase system or otherwise as well as raw materials at reasonable rates, advising weavers with regard to the provision of improved and easily marketable patterns and designs, undertaking preparatory and finishing processes and dyeing and printing in connection with the handloom industry and accepting on consignment account against

partial payment handloom products from weavers and purchasing outright handloom products and selling them. To fulfil these aims and objects each association was to open a shop at its headquarters, the expenses of which amounting to about Rs. 3,400 per year were to be met from the Imperial grant until the shop was able to support itself. A further provision of Rs. 26,000 per year was made for each Association to meet the losses, if any, in its working on account of bad debts and depreciation. According to Mr. Patil, these Associations made good progress during the year, only one Association at Poona being closed down for lack of progress. In Bengal, the help consisted of supplying to various co-operative industrial unions improved handlooms for demonstration purposes and over 2000 weavers have so far been trained by the expert staff attached to the Industries Department in the improved weaving of various new designs. The different unions are federated into a central organisation in Calcutta—the Bengal Provincial Co-operative Society—which has to arrange for the disposal of finished products. One great handicap has been found to be the lack of working capital. The United Provinces Government sanctioned a grant of Rs. 45,000 for rendering assistance to handloom weavers during the year 1936-37 while the Bengal Government sanctioned Rs. 42,000 for the same purpose during the year. The Arts and Crafts Emporium run by the United Provinces Government has been doing very good business and it was reported at the Ninth Industries Conference that goods worth Rs. 1,00,000 were sold through the Emporium. The Bihar Government have prepared estimates for spending Rs. 50,000 during 1937-38 for the improvement of handloom weaving. They have also enhanced their grant for the purchase of raw materials and finished goods of the weavers from Rs. 1,40,000 to Rs. 1,70,000. Like the U. P. Arts and Crafts Emporium, the Bihar Textile Institute also did good business, selling the handloom products not only at various centres in India but also outside of India. The Government of Bihar complained, however, of competition by the other provinces in outside markets, thus furnishing another reason why a co-ordination of the provincial efforts were necessary. The U. P. Government spent Rs. 24,000 for the improvement of handlooms during the 1936-37 while Assam spent Rs. 24,000 for the development of the handloom industry in the province. The chief

Minister of Orissa complained that the two great defects from which the industry suffered in the province were the costliness of the finished products and the fact that the handloom weavers were financially in the hands of the petty shopkeeper-moneylenders. He proposed to make an experiment under which handloom weavers would be provided with yarn at a minimum price and all finished products would be dealt with by the Organiser of the scheme.

These remarks show the wide variety of the steps that the different provincial governments in India have taken or proposed to take for the resuscitation of the handloom industry. One significant fact that stands out in this discussion is that the handloom products now command a market which exceed not only the limits of a local area but the boundaries of the province concerned and even find markets outside of India. It must be admitted that a great part of the efforts made for the improvement of the industry has been due to the impetus given by the Central Government. Here comes the necessity of the central planning authority taking upon itself the duty of organising a powerful drive for the improvement and re-organisation of the handloom industry. Needless to say, the grants to be made available to the different provinces for the purpose of improving the industry must be substantially increased. Apart from the grants, however, a co-ordinated scheme of improvement should include a thorough examination of the productive as well as the distributive side of the industry. The cost of raw materials, the adoption of improved appliances, transport charges, selling costs, lines of specialization—these among others should receive the earnest consideration of the planning authority. So far as the local organisation of the industry is concerned, the scheme that is suggested here is to make the regional committees the primary units through which the drive initiated by the planning authority should reach the prime producers. A number of such regional committees may federate themselves into a co-operative association on the lines of the Bombay model. The whole idea should be popularised by means of extensive propaganda carried on by the different provincial departments of Industries. Every province should have a Cottage Industries Institute—an idea that will be elaborated in the chapters dealing with the planning of industries—for imparting training

in the methods and processes of different industries suitable for rural areas and as a clearing house of information. This Institute should form an important section of the provincial planning authority, and the handloom industry should have the pride of place in the courses of training offered by it. These institutes may be formed on the lines of the Delhi Cottage Industries Institute. Attached to the Institute there ought to be a permanent Exhibition of cottage and handloom products.

§ 2

SERICULTURE.

The silk industry of India is a very ancient industry. There was a time when Indian silk commanded a very valuable market in foreign countries. Gradually, the weaving side of the industry became disorganised on account of the competition of foreign silk and other factors, and India, instead of being an exporter of silk goods, became an exporter of raw silk. In course of time, the exports of raw silk also stopped until to-day we find India importing silk from abroad.

The present condition of the silk industry is deplorable. The difficulties of the industry at present relate to all the processes from cocoon rearing to silk-reeling and silk-weaving. There are areas where the production of cocoons has diminished by as much as 60 per cent during the last few years. In Malda for instance, we are told that there is no market for mulberry leaves and the cultivation of mulberry is not now a profitable occupation. The entomological side of the silk industry has received attention only in recent years and a few Government nurseries have been started to supply disease-free seeds to the rearers but cases are not unknown when the disease-free seeds supplied to the rearers have subsequently fallen a victim to the diseases, mainly on account of the fact that the conditions in the village rearing houses are not favourable to the maintenance of the quality of the seeds. The improvement of indigenous silk-worm breeds, the introduction of superior yielding exotic races and the creation of suitable hybrid varieties adapted to particular tracts are some of the requirements which have recently been receiving the special attention of the governments and the States concerned. The Bengal Government had in the past been maintaining twelve nurseries for the production of disease-free layings and

seed cocoons but due to financial stringency five of the smaller nurseries were subsequently closed in 1933-34. The following description of the condition of the rearers of Malda which was at one time famous for its silk industry will convey some idea of the parlous state to which the industry has now been reduced : "At present more than 60 per cent of the rearers mainly depend upon sericulture for their livelihood. The remaining 40 per cent who have some sort of subsidiary occupation such as cultivation or weaving do not derive good profit from pursuing these avocations and are living a hand-to-mouth existence If the present state of the market continues for another half a decade sericulture in Maldah will be an industry of the past and the cocoon rearers will be all swept away. There is hardly one healthy man in 50 and he has no winter clothes to wrap himself with. They do not receive any medical relief."*

While the rearers are in a very critical position, the condition of the reelers is no less so. The yarn market in Bengal is particularly under the control of Marwari merchants. The local reeler is completely under the control of the Marwari fraternity. Most of the silk is reeled by the indigenous method. Filature silk does not seem to command a good market in India in the local areas. The price of a filature is prohibitive and in any case the cost of training workers is heavy. The attention of the experts in this line needs to be directed towards the improvement of the reeling methods with due regard for economy and suitability if the industry is to be saved.

So far as silk-weaving is concerned, it is pre-eminently a cottage industry though in some cases there is a tendency for the weavers to migrate to workshops, which are small in size, in the capacity of wage-earners under a master artisan. Most of the weavers are at present in a critical financial condition, deeply involved in debt, with their lands mortgaged to the local *mahajans*. In short, so deplorable is the condition of the weavers that if the respective governments do not take more active steps for the re-organisation of the whole industry it is likely to vanish without any hope of revival in the near future.

It is only to be emphasised that the silk industry has not only great possibilities in India as a source of wealth, but as a subsidiary

*This extract is taken from the report (unpublished) submitted by Mr. S. N. Mazumdar Choudhury, Investigator of the Bengal Economic Society to the President of the Society, dated March 21, 1933.

industry also it has an important place in the economy of this country. A Press Note issued by the Government of Bihar on July 18, 1937, thus explain the possibilities of sericulture as a cottage industry in that province: "Sericulture offers distinct possibilities as a cottage or subsidiary industry, particularly in this province, where an area of about 44,000 acres is under castor plantation. If advantage is taken to rear silk-worms on castor leaves, the estimated financial benefit with the people will be very great and it would also provide a useful spare-time occupation. It has been calculated that from an acre of ordinary land under castor plantation about 30 seers of dry cocoons valued of Rs. 40 can be obtained. These cocoons when spun into thread yield at least 16 seers of silk yarn which can be sold for Rs. 80 even at the present low price of silk. Thus the income of an agricultural family growing castor plants on about one acre of land and rearing and spinning *eri* would be not less than Rs. 80 a year besides about Rs. 20 that they can expect from the sale of castor seeds. If the spun yarn is woven into silk materials, it can face as much as Rs. 160. This does not mean that a cultivator must have at least one acre of land to spare to be able to take up this subsidiary industry because a petty cultivator who can spare even a smaller piece of *bari* or *tar* land for this purpose can make an additional income by carrying on this industry on a small scale."

The main problem is of course the competition offered by cheap foreign silk to the local industry. The extent of this competition can be judged from the evidence submitted to the Indian Tariff Board which is at present considering the claim of the silk industry for protection. Thus with reference to bonded silk which has been imported into this country from Japan, it has been pointed out that the Japanese Government purchased that silk at 1,250 yen per bale and sold it at 455 yen per bale, bearing the loss of the difference between two figures by way of assistance to the industry. It was also stated by one of the biggest importers of silk in Calcutta to the Tariff Board that he had actually bought about 60 bales of Japanese silk in 1935 for Rs. 3-12 per lb. which was about 40 per cent lower than the present market price of Japanese silk.

The present production of raw silk in India in sericultural provinces and States (1937-38) is about 16,00,000 lbs. It represents a

deterioration by over 4,00,000 lbs compared to the production of 1933. It was claimed before the Tariff Board that if adequate protection were granted to the industry, the production could be increased to 40,00,000 lbs., or by 250 per cent. At present the total imports of raw silk into India amount to about 25,00,000 lbs., but the whole of the requirements of India could be locally supplied if the industry were fully protected.

All this means that it was time that the planning authority addressed itself to the task of co-ordinating the efforts of the provincial governments, with such central help as might be found necessary. Almost all the Directors of Industries who have given evidence before the Tariff Board are of the opinion that the Imperial Sericulture Committee should work on a much more expanded scope of activities and that the sum of Rs. 1 lakh per year which was at present sanctioned for it was totally inadequate. It was suggested that the Committee should devote its attention to the question of research and should have the power to review the progress of sericultural work done in the various provinces and States during the year, to decide on a programme of development work for the future, to co-ordinate the needs of the various provinces and States, lay down lines of research work to be done, the results to be made available for the whole of India and the allocation of grants to the various provinces and States. In other words, the provincial Directors of Industries have fully recognised the need for a central co-ordinating authority that will provide an impetus for the development of the sericultural industry. Under the scheme of planning contemplated in this book, these functions should devolve on an appropriate wing of the agricultural planning authority.

CHAPTER XV

THE VILLAGE INDUSTRIES ASSOCIATION

§ 1

CONSTITUTION.

The All-India Village Industries Association, or as it is known in the Indian language, "Akhil Bharat Gram Udyog Sangha," inaugurated under a resolution passed at the session of the Indian National Congress held at Bombay on the 27th October, 1934, is the first planned attack by the people of the country under the leadership of Mahatma Gandhi on the chaotic economic conditions prevailing in the rural areas of this country. The exact nature of the Association and the kind of economic planning that it has in view will not become clear unless it be functioning for some time and its relations with other economic activities not at present within its scope intelligently determined. Enough information may, however, be gleaned from the statements, interviews, articles and other matters connected with the Association that have appeared in the Press from time to time, particularly those that have emanated from Gandhiji himself, to enable us to have a rough idea of the kind of activities in which the Association is designed to interest itself. It is the purpose of this chapter to give a critical estimate of the aims and objects of the Association with a view to evaluating the part that it will play in the formation and execution of a national economic programme with particular reference to rural industries.

Before, however, we proceed to discuss the aims and objects of the Association, it would not be irrelevant if we tarry for a moment over the constitution of the Association. It is, perhaps, inevitable that the Association should at the start consist mainly of Congressmen but it would be wrong, *pace* all statements to the contrary, to imagine that it is a Congress organization or that it

is meant to be a limb of the Indian National Congress. To some extent, Gandhiji himself has been responsible for this confusion which exists in the public mind. His own intimate connection with the Congress and its leadership together with the fact that the Association was born under the auspices of and at a meeting of the full session of the Congress, complicated further by certain irresponsible statements made by Congress leaders and officials, naturally led to a presumption that the newly started Association was but a new orientation of Congress activities and that its economic programme is but a cloak for the concealment of its more sinister objects. Presumably, that was the suspicion that inspired the circular issued by the Home Department of the Government of India to the Local Governments asking the latter to watch carefully the activities of the agents and other persons engaged in the work of the Association, a fact which was confirmed by the Hon'ble Sir Henry Craik in the Legislative Assembly on the 21st January, 1935 in course of a debate on a motion for adjournment of the House moved by Mr. Satyamurthi. That this view is not tenable will be apparent from certain facts, a clear grasp of which will suffice to remove all doubts in the matter.

In the first place, it must not be forgotten that in inaugurating this Association, Gandhiji has officially severed his connection with the Congress except, perhaps, in an advisory capacity. If, however, the fact that Gandhiji still retains the weapon of civil disobedience in his hands, even if he wields it alone, is considered sufficient to question the reality of his resignation from the Congress, there is conclusive evidence to show that the Village Industries Association itself, apart from Gandhiji personally, is meant to be a non-political body. In a statement issued on the 8th November, 1934, from Wardha, Mahatmaji declared: "I would also like to emphasise the fact that the Association is to be entirely non-political. Its sole object will be the economic, moral and the hygienic uplift of villages in India and it will be open to workers drawn from all parties. The test will be full sympathy with the programme and readiness to help it with money and actual work wherever possible." Again, in course of an article under the caption "The New Baby" contributed to the *Harijan* in its issue, dated the 21st December, 1934, Mahatmaji stated: "The Association, though it is a creation of the Congress has been deliberately made non-political and autonomous. Its members are

pledged*, while they remain such, to abstain from any campaign of civil disobedience. As its adviser and guide, I can say that the Association has no further aim than that of bringing about the economic, physical and moral betterment of the villagers." When the "adviser and guide" of the Association was confronted with the fact that he still retains in his hands the right of practising civil disobedience whenever he might feel called upon to do so, and with the view of the Government of India (at present tentative) which found expression in the circular referred to above and in the speech of Sir Henry Craik in the Assembly, Gandhiji was reported to have declared in a special Press interview: "If ever I should have to organize civil disobedience, it would be organized independently of any other activity,"† and emphasised that never in his life had he done anything in an indirect fashion, meaning thereby that the Village Industries Association had for its objective the revival of village industries alone without any other ulterior motive behind it.

These extracts are germane in so far as it is necessary to satisfy ourselves that the newly-born Association is an absolutely non-political body, and that all its aims and objects are concerned with the rural economic conditions of our country. In this connection, it is necessary further to point out that membership of the Association, is open to any one who would subscribe to its pledge which, as we have seen, definitely eschews politics, and the members are also laid under the obligation, in terms of the pledge, "to seek the assistance and co-operation of all those who may be willing to give them irrespective of differences in politics". Gandhiji has further

*The pledge which has to be signed by every member of the Association is interesting and significant, and may be reproduced for that reason :

"Having read the constitution and rules of the All-India Village Industries Association, I offer to be a member thereof and God helping, promise to devote the best part of my energy and talents to the furtherance of its object, which is the all round welfare of the villages of India :

"So long as I remain a member of the Association, I shall not take part in any comparison of civil disobedience :

"In the discharge of my duties, I shall seek the assistance and co-operation of all those who may be willing to give them, irrespective of differences in politics :

"To the best of my ability I shall strive to live up to the ideals of the Association and prefer the use of village manufactures to any other.

"In the prosecution of my obligations to the villages, I shall recognise no distinction between man and man".

amplified it in course of the interview given to the *United Press*. "The Association will do nothing unaided", he was reported to have observed, "for so vast is the work to be done." "Therefore", he added, "it will invite and receive the co-operation of all agencies, not excluding the official agencies."

The explanation of the non-political character of the Association is, it will be agreed, sufficiently conclusive. There is no warrant for the official view that the initial attitude of the Government towards the activities of the Association should be one of suspicion unless it is subsequently found to be unjustified. We should rather say that if the Government sympathised with the aims and objects of the Association, their initial attitude should have been one of co-operation and helpfulness unless it was proved to have been wrong by the subsequent activities of the Association.

§ 2

AIMS AND OBJECTS.

What are the aims and objects of the Association? It is necessary to have a clear idea of the aims and objects of the Association before it is possible to evaluate their merits or properly study them in relation to other economic activities not within the scope of the Association. Can we call it an economic plan? Every economic plan sets to itself certain pre-conceived ends to achieve and from that point of view also, a study of the aims and objects of the Village Industries Association is necessary. The question is, how far, if at all, do they represent a clear-cut economic plan?

Here we come across a strange contrast. Gandhi, the idealist and visionary in politics, is revealed as a practical businessman, almost a *bania* in economics. In politics, "complete independence" is the goal; in economics, the goal, as we shall see, is very much modest, though the scale of operation is necessarily country-wide. In the one case, the ideal held aloft is that of "Purna Swaraj" for the country, which at one time, used to be accompanied by definite time-schedules; in the other, the necessity of "moving very cautiously"* is emphasised, the work being compared to "sailing on an uncharted

*Interview to the *United Press*, January, 22, 1935.

sea." Why this difference in outlook? To say that in the one case, the Mahatma lacks a sense of reality, in the other case it is present—is merely to beg the question. I believe the whole difference is the difference between irresponsibility and responsibility. The absence of all power in the one case and the possibility of doing solid, hard work in the other, explain the difference; a case of mass appeal against individual responsibility. That is why we want the highest ideal in the one case, and nothing better than a modest goal in the other. There is a strong sense of limitations present in the latter case: limitations arising out of the Government's indifference and the people's poverty and incapacity to bear the burden of large schemes. But we must not anticipate nor be unnecessarily critical.

The aims and objects of the Association are officially stated to be as follows as per a *communiqué* issued from Wardha on the 15th December, 1934 :—

"The object of the Association shall be village re-organization and reconstruction including the revival, encouragement and improvement of village industries and the moral and physical advancement; and for the fulfilment of its object the Association shall raise funds to carry on research work, publish literature, organise propaganda, establish agencies, devise measures for the improvement of village tools; and do everything that may be necessary for the furtherance of its object."

In an earlier statement—in order to impress upon the public the necessity of an immediate practical programme—issued from the same place (dated 8th November, 1934), Gandhiji was more specific and classified the objects of the Association into the four following categories, namely :—

- (a) To encourage and improve the known industries that are likely to perish for want of support;
- (b) to take charge of and sell the products of those industries;
- (c) to carry on a survey of such industries as need to be revived and supported, and
- (d) to attend to village sanitation and hygiene.

The specification of work points more to the objects of the Association that could most usefully be fulfilled rather than to an exhaustive enumeration of all the objects of the Association. The paragraph quoted above from the *communiqué* of the 15th December

is a comprehensive statement of its objects. These objects are made co-extensive with the whole field of rural reconstruction and village improvement, including moral and physical improvement of the people. That is, no doubt, an ambitious scheme and it will be seen, further, that it is not wholly economic either but like all schemes of rural welfare, it is set in the direction of the moral and physical improvement of the people. Thus, as regards industries, Gandhiji explained in his Press interview on the 22nd January last, "the Association will certainly seek to revive and encourage as many industries as are necessary for the moral and material growth of village life." But the ambitious ideas are severely limited by practical considerations and we find Gandhiji indicating the directions in which useful work may immediately and actually be taken in hand, for instance, handpounding of rice, grinding of whole wheatmeal by village *chakkis*, popularising *gur*, and studying processes with a view to ensuring the purity of products.* The beginning should appear to be too humble to many, but those who would complain about it would certainly be those who have missed the economics of Mahatma Gandhi. Articles of diet and articles of dress constitute the two central points in that economics. Behind them both, lies the fundamental Gandhian conception of the economic self-sufficiency of the village. The importation of foreign cloths, even cloths made by Indian mills, into the villages, when the locally produced *Khadi* can dress them all, and in addition, give them employment for the idle months of the year, is as much painful to him as the importation of foreign articles of every day diet, such as, sugar, flour, biscuits, sweetmeats, etc., when similar products but of superior purity may be locally produced and pursued as a lucrative occupation by those who have not been driven into idleness by the mill and the factory or as a subsidiary occupation during the four months or so of the year when the cultivators have laid aside their ploughs.

The question of employment is further supplemented by the requirements of health in the case of diet. The handpounded rice, *gur* and whole wheatmeal are superior in nutritive value to husked and boiled rice, and sugar or flour manufactured in a flour mill. Mahatmajī is so definite on this point that he is prepared even to see the

*Statement (Wardha) dated November, 8, 1934.

growing sugar industry of the country losing its market rather than that it should affect the health of the people by displacing *gur*. Thus, according to Dr. Ansari whose opinion is quoted *in extenso* by Gandhiji, boiled rice is deficient in Vitamin B (the absence of which is said to cause beri-beri) whereas "unpolished rice, not being subjected to the boiling process used in polishing rice in the mills retains Vitamin B as well as the protein, fat and mineral matter in which rice is none too rich." As regards wheat, Dr. Ansari observes that "in the process of milling, the germ and the bran are rejected and with it undoubtedly are discarded some of the most useful chemical constituents of wheat, for with the germ, a considerable amount of protein and fat are lost", and proceeds to say that "the wheatmeal ground in the mills is never so rich in these ingredients as the whole wheatmeal flour ground in the indigenous *chakkī*. The latter consists of all three ingredients, i.e., the bran, the kernel and the germ and is hence superior in nutritive value, besides being cheaper and more readily available to the poor people in the country-side." As for *gur*, it is Dr. Ansari's considered opinion that its nutritive value "is at least 33 per cent superior to that of refined sugar".*

These are, in the conception of Gandhiji, typical village industries the displacement of which has left the villager at the mercy of exploiters. "Go to the village carpenter," says Mahatmaji, "and ask him to make a spinning wheel for you, go to the village smith and ask him to make a spindle for you, you will be disappointed". The fact is that the villager has ceased to produce the things which he formerly used to produce; he is now an exporter of goods—food-stuff and raw materials—that the town dwellers require, that the industrialists of India and abroad require; and he imports instead cheap substitutes for his own use that impair his health. He can produce and keep for himself what he now exports, and in addition, employ his idle hours by producing what he now imports; jaggery wheatmeal, village tools belong to this category. The idea is first that of securing economic self-sufficiency of the village,† and then catering for the needs of town dwellers. Here we get a distinct idea of planning. The clinical analysis of rice, wheat and *gur* and their significance as village industries point only to a

**Vide* article in *Harijan*, December, 28, 1934.

†*Vide* article in *Harijan*, December, 7, 1934.

certain selective process through which the plan has got to work. They do not exhaust the list.

§ 3

PRINCIPLE OF SELF-SUFFICIENCY.

This section may be regarded as a digression. It has already been seen that the handpounding of rice, grinding whole wheatmeal flour in the village *chakki*, the manufacture of jaggery—these represent only primary and at the same time characteristic selections for the villagers as an immediate economic programme which the Agents of the Association will be called upon to undertake. Neither in the statement of the objects of the Association as given in the *communiqué* of the 15th December, 1934, nor in other documents published in connection with the activities of the Association is there any mention of the fact that these activities will not go beyond the handpounding of rice, grinding of whole wheatmeal, and jaggery. On the contrary, the *communiqué* states as the object of the Association "village reconstruction and reorganization including the revival, encouragement and improvement of village industries". The scope of the Association includes the entire life of the village, economic, moral and physical. The doctrine of economic self-sufficiency emphasises it so far as the economic activities of the Association are concerned. The references to the village carpenter and the village blacksmith and their present incompetence suggest specific lines in which the activities of the Association might expand to secure such self-sufficiency. As for Khadi, it will be "the Sun of the whole Industrial Solar System" in the expressive words of Gandhiji. "All the other industries," said he, "will receive warmth and sustenance from the khadi industry." When asked by an interviewer as to what exactly were the industries that ought to be revived and promoted, Gandhiji replied "we must promote every useful industry that was existent a short while ago and the extinction of which has now resulted in unemployment."

The most important contribution to economic thought and practice that the All-India Village Industries Association is expected to make is, without doubt, that of rural economic self sufficiency. The doctrine is apparently so foreign to the principles of economics that are taught to-day that to many it would either represent a retrogression or just a silly and futile attempt to stem the idea of

economic progress. On this subject, therefore a few words may be specially addressed.

In the first place, it is evident that few people take their stand to-day, in a world of contradictory phenomena, changing values and new standards, on the immutability of economic doctrines. The economics as it is taught in the class room of an Indian college is still principally influenced by the Manchester School. But the economic nationalism of the modern world takes the businessman, the industrialist, the banker, the currency expert, the fiscal reformer, even the agriculturist in a different direction than that mapped out by the orthodox theory of international exchange values. The series of changes which are convulsing the world of economics to-day reach their most characteristic consummation in the conception of national economic planning. Old traditions, however, die hard, and we find national economic planning coloured by a strong urban bias. Tariffs, exchange controls, currency manipulation, control of credit, quotas, the prosperity of large organised industries, these constitute the essential ingredients of almost all national plans to-day. Little attempt has been made to plan and co-ordinate rural economic conditions: conditions of prime producers, small industries, village health and sanitation. And thus we come to the second point, namely, that this new theory of economic self-sufficiency of the village involves a change in the point of view. The whole question of economic improvement is looked at from the point of view of the villages. The stress is laid on the idea that the moral and physical improvement of the village must not be ignored. In India, the point cannot be too much exaggerated. She is a land of villages, with 7 lakhs of them inhabited by 314 million souls as against a little over 2000 towns with a population of 39 millions. Organised industries give employment only to 1 p. c. of the population; the rest live on agriculture and village crafts. A century of the policy of free competition has led to the predatory exploitation of the wealth of the country and has consequently been responsible for the rapid impoverishment of the general mass of the people. Their debts have increased, their land reduced to fragments, their crafts and arts decayed, and their health impaired; and with the invasion of their soils with jungles, deterioration of rivers and the menace of malaria and the water hyacinth, the problem has become one of absolute despair, unless some Hercules appeared and put his shoulders to the task.

A rural economic plan also represents for the present the line of least resistance, for in other plans there may at least be the possibility of interference by vested commercial interests backed up by a network of constitutional safeguards ; and so far as Gandhiji's idea of the Village Industries Association is concerned, it does not depend on the artificial assistance of any external agency, either. Moreover, what the villagers are interested in are a sufficiency of food, clothing and shelter, and a few miscellaneous articles for their simple needs. The question of a standard of living will arise when these 314 millions of people have been raised to the minimum level of human existence ; and not before.

Thirdly, and finally, the idea of economic self-sufficiency does not preclude all contact with the town ; it simply argues changed relations, changed relations with the people of the towns and with the mechanised industries that feed civilization. As we shall see, those relations have not yet been carefully defined, and it is here that seeds of conflict and disruption might be concealed. For we must not forget that with the railways and other means of communication, we cannot completely isolate the village. The problem is to organize the inter-relations between the town and the village, between commerce and agriculture, between mechanised industries and village crafts, on a rational basis. This is the most difficult part of rural planning, and here Gandhiji is somewhat dogmatic. The following extracts from an article contributed to the *Harijan* (December 8, 1934) summing up Gandhiji's talk with the members of the Gandhi Seva Sangh at Wardha will, perhaps, clarify the situation to some extent.

Thus, speaking of the villagers he says, : "There were numerous things of daily use which they used to produce themselves not many years ago, but for which they now depend on the outer world. There were numerous things of daily use to the town-dweller for which he depended on the villages, but which he now imports from cities. The moment the villagers decided to devote all their spare time to doing something useful and town dwellers to use those village products, the snapped link between the villagers and the town dwellers would be restored. As to which of the extinct or moribund village industries and crafts could be revived, we could not be sure until we sat down in the midst of the villagers to investigate, to tabulate and to classify."

As regards, the cry, "Back to the Village", Gandhiji believes that it means, "rendering back to it (the village) what belongs to it" and proceeds to explain: "I am not asking the city dwellers to go to and live in the villages. But I am asking them to render unto the villages what is due to them. Is there any single raw material that the city dwellers can obtain except from the villager? If they cannot, why not teach him to work on it himself, as he used to before and as he would do now but for our exploiting inroads"? "Even the little that he produces, he gives back to the sugar merchant and the cloth merchant."

The question of the relation of the village crafts and industries with mechanised factories of the towns is still more difficult. There is, for instance, the likelihood of opposition of the organized industries to the village industries competing with them in the villages, of the cotton mills with the industry, of the *khadi* sugar mill with the producers of jaggery. The question is particularly pertinent because we do not find any assertion by any authority connected with the Village Industries Association, not even by Mahatmaji himself, that only those village industries will be promoted or revived which will be complementary to factory production. On the contrary, in the interview given to the *United Press* on January 22, 1935, Gandhiji clearly anticipated conflict and declared that the Association "will not be deterred by conflicting world forces". In the case of such industries as wheatmeal flour and *gur*, he would see that "no mechanised industry is allowed to interfere with the health of the people". As we just pointed out, he looks at the entire problem from the point of view of the villager; and he would make, not the village industries complementary to the factories, but the factories complementary to the village industries. "Large scale centralized industries in India, except such industries which cannot be possibly carried on in the villages, must mean the starvation of millions who are displaced." Since, however, neither Mahatma Gandhi nor the Board of the Village Industries Association has got the power to direct the development of factories, there is a real prospect of conflict in so far as the enormous resources of the capitalist employer will be pitted against the fact that the consuming power is held in the villages. But the main point to notice now is that such conflict is foreign to the principles of economic planning.

§ 4

THE ORGANIZATION.

We now resume the thread of our discussions. What is going to be the agency through which the activities of the Association are to be carried out? Gandhiji has said definitely that it is not his purpose to select a few specific areas to which alone the activities of the Association will be confined. The activities will have to be spread over the whole country just when and where they might appear for the time being suitable and convenient, subject to the general directions and financial supervision of the Board of Management. Apart from the supervision, the work will be decentralised and carried on with the help of local agents. There could be no question of paying the agents. They must agree to live in the villages, meet their own out of pocket expenses with the help of donations (in which case account must be rendered to the Central Board) though in urgent cases, the Board itself may be prepared to find the money. Reports of the work done by every member must reach the Central Office once in every quarter and if a member sends no report for three consecutive quarters, he shall cease to be a member of the Association. "It is felt", writes Gandhiji in publishing the rules and bye-laws of the Association*, "that the Board can never cover all the seven hundred thousand villages of India, if it is to employ paid agency. It has started work with the belief that there are self-sacrificing men and women enough to realise the necessity of serving the villages which have remained long neglected though every one knows that city life would be impossible if there were no villages to serve them". We feel sure there will be sceptics—cynics who doubt the eagerness of people to perform honorary work and its real value when performed. But the magnetic personality of Mahatma Gandhi has silenced many cynics in the past and may silence them once again. The best solution of the problem might, nevertheless, have been obtained if munificent patrons of the idea came forward with a large capital grant. As it is, the Association has been able to secure ample grounds and buildings at Wardha provided by the generosity of Seth Jamnalal Bajaj to serve the headquarters of the Association. Besides this, Gandhiji has secured promise of further donations and the constitution of the Association provides

*Vide the *Harijan*, dated December 28, 1934.

for Associates who will pay an annual subscription of Rs. 100 and Life Associates who will pay Rs. 1,000 in lumpsum. Though in course of time these subscriptions may grow into a large sum, at the beginning the amount is uncertain and rules out any definite promise of remunerating the agents or the workers. That is why it is stated that "the workers or agents will be selected from those who, consistently with their pre-occupation of earning their livelihood will give their whole time to the work of the Association. So far as possible, the agents will be honorary. They will collect what funds may be necessary for the organization of their areas. It may be that the Board will not get many unpaid agents. It will be satisfied for a start even if a few districts are thoroughly organised and demonstrated to be economically and otherwise successful". Again, in course of publishing the bye-laws and rules of the Association, Gandhiji observed that "no one should take charge of more villages that he can manage with or without the help of the co-workers he has to find, and the Board is to undertake no financial responsibility".

Though the work itself is to be decentralised, the central authority of the Association will be vested in a Board of Management. The first Board of Management which is nominated consists of the Foundation Members* who are to hold office for three years, after which the Board will be elected by the members and their period of office will be 3 years as in the case of the first Board. Wardha will be the headquarters of the Board. Those who would join the Association would belong to one of the three following categories namely, "Members" who have signed the pledge and are duly recommended by a member of the Association or any authorised agent, "Associates" who sympathise with the objects of the Association and pay Rs. 100 as annual subscription, and "Life Associates" who make a lump payment of Rs. 1,000 each to the Association and sympathise with its objects. Institutions which undertake to abide by the Rules and Regulations laid down by the Board of Management may be affiliated on application to the Association. It shall also be competent for the Board to issue certificates to persons

*These are Shri Shreekrishnadas Jajooli, Shri J. C. Kumarappa, Shri Goshi Ben, Shri M. S. Captain, Doctor Khan Shahib, Seth Soorji Vallabhdas, Dr. Prafulla Chandra Ghosh, Shri Laxmidas Purshottam Ashar and Shri Shankarlal Banker.

who may be prepared to deal in village manufactures coming within the province of the Association.

The main duties of the Agent may now be briefly summarised. He will, consistent with and in pursuance of the economic programme laid down by the Board, carry out a survey of all such industries as may be revived, improved or introduced in his area and report forthwith to the Central Office the results of such investigation with a programme of work based thereon for examination by the Office; with a view to finding markets for the surplus product of the villages, he should induce reliable merchants to store village products for sale at prices mutually fixed between the merchants and the agents with a view to ensuring the genuineness of such products; carry on propaganda; and appoint whenever necessary, and if funds at his disposal permit, paid workers needed for this work; and must keep proper accounts which will be subject to audit, and generally act under the supervision of the Central Office. The ultimate idea is to have as many agents as there are villages.

It will be evident from the above that though the terms and duties of the agents have been very carefully defined, the scheme is defective with regard to a number of particulars. Thus, for instance, though the work is to be decentralised, it will obviously be both territorially and functionally inter-related with similar work carried on in other parts of the district, province, or country as the case may be, and in order that the work may be well co-ordinated, it is necessary that the Central Office should constitute itself into a Clearing House of information as well, with Provincial Branches to expedite the transmission of such information. Too much of reference to the Central Office is unnecessary and undesirable and should be avoided in the matter of getting instructions or submitting reports, the nearest situated member of the Board of Management representing the Central Office in all matters of routine. The distributive side needs also to be improved for the success of the scheme will depend very materially on how the products sell. Here there is crying need for setting up a separate marketing agency which will work in *liaison* with the agents on the one hand and the information bureaux on the other.

§ 5

CONDITIONS OF ITS SUCCESS.

In conclusion, it needs only be emphasised once again that the scheme stands or falls on the abundance or otherwise of public spirit in our country. Nay, it would be more accurate to say that it stands or falls according as the number of those who "consistently with their pre-occupation of earning their livelihood" will be able to "give their *whole time* to the work of the Association" is large or small. Up to a certain limit, the personal appeal of Mahatmaji will be able to secure a number of workers answering to the description given above. But such number cannot be very large in our country, that is, the number of those who with a secure source of income will be able to devote himself whole-heartedly to the work of the Association. The problem of unemployment, on the other hand, is most acute among the middle classes from whom chiefly the workers will have to be drawn. Those who have occupations have to work for every pie of their income and their leisure is not superabundant. In Bengal for instance, there are about 650 police stations and over 450 revenue units. I doubt whether there would be as many agents who would offer themselves for honorary work in the cause of the Village Industries Association. Not that public spirit is wanting in this Province, but that even though many might be willing, in fact, eager, to do this kind of work, few would be actually free and able to do it.

The element of conflict between organized industries and those which the Association will promote in the villages must also be watched with extreme caution. We have to meet not only the question of poverty at our door but that of exploitation by the non-Indian capitalist as well. The only reply to the latter's challenge, since we cannot prohibit it, is to play the game and start organized industries ourselves. We must not lose our grasp of realities and ignore either their necessity or their existence. Some sort of complementary production covered by an inter-connected plan for both seems to be the inevitable solution, and it is just as well that Gandhiji and the people of India should face the problem here and now.

CHAPTER XVI

VILLAGE RE-ORGANIZATION

§ 1

THE VILLAGE.

The village is the base of the socio-economic structure of India. It has been the cradle of the ancient civilization of this country, and even to-day it is the home of about 90 per cent of the people. After more than a century and a half of British rule, it yet holds the key to the solution of many of the social and economic problems of the country. Civilization according to Western standards is a peculiarly urban product. For this reason Western culture has failed to take root in this country. The heart of India is in the village, where Western culture has not yet penetrated to any great extent. The village still lives its own life, and the generations of to-day like the generations of the past are content to live the simple life of their ancestors.

It will, however, be misleading to say that the Indian reformer can reconcile himself with the conditions that obtain in the Indian village. The conditions are not those of an idyllic bliss. The village of to-day is not only an ancient institution, but an antiquated one, in the economic life of the country. We can no longer ignore the impact of Western civilization, and though it has not directly affected the life of the village excepting to a very limited extent, it would be foolish not to recognize the indirect effects of that civilization on the rural life of the country. For the last half a century, mainly under the impetus given by the industrial civilization of the West, there has been a steady export of wealth and talent from the countryside which it has been the business almost of everybody to talk about but of nobody to arrest. The agriculture of the country on which the village depends has now been brought within the ambit of world economic conditions, which we can ignore only at our peril.

No doubt there have been efforts in several directions to improve agriculture, to rehabilitate cottage industries, to set up primary schools, to construct roads, to improve the water supply, to provide health services and in other ways to make life worth living. But these efforts have been spasmodic without any nation-wide urge informing them and without any attempt to co-ordinate them along channels that would involve the minimum of waste.

If statistics could speak, the following table would speak eloquently of the importance of the village in India.

TABLE

The urban and rural populations of India.

	Number of towns or villages.	Population (in millions).	Percentage of population.
Total Population		352.8	100
Urban Areas		89.0	11.0
Towns having:—			
100,000 and over	38	9.7	2.7
50,000 to 100,000	65	4.6	1.3
20,000 to 50,000	268	8.1	2.3
10,000 to 20,000	543	7.4	2.1
5,000 to 10,000	987	7.0	2.0
Under 5,000	674	2.2	0.6
Rural Areas		313.8	89.9
Villages having:—			
5,000 and over	1,343	5.3	1.5
2,000 to 5,000	18,162	38.7	11.0
500 to 2,000	167,449	139.0	39.4
Under 500	509,786	130.8	37.1

It would be seen from the above table that while 89 per cent of the total population of India live in rural areas, the large majority of the population, about 76.5 per cent, live in the smaller villages. Of a total of 696,740 villages in India, 509,786 villages contain a population of less than 500 persons each. Most of these villages are in the nature of scattered hamlets with only a few families living in each. The influence of Western civilization has not yet touched the lives of most of them. Very few of them have seen even a railway train, far less travelled in one. The amenities of social life are unknown to most of them. The government of the country have but little contact with them. High politics do not enter into the context of their lives. Even a newspaper does not reach many

of these villages. Even if it reached by chance, it would be a useless article with them because in India 90 per cent of the people cannot read or write and certainly there are villages where illiteracy is 100 per cent.

To re-organize these villages is a gigantic task. Not only is the scale of the efforts bound to be vast and the problem of cost a tremendous one, but also the conservatism and fatalism of the village masses would oppose almost insuperable obstacles to the zeal of the reformer. Many of the movements for social reform have broken down time and again against the bulwark of the village orthodoxy. The intelligent, enlightened and active co-operation with the public power which alone can ensure the success of a new social movement is absolutely wanting in most of the villages of India with the result that between the forces of conservatism on the one hand and want of funds on the other the spirit of the reformer is damped to the point of utter despair. Just as it is foolishness to build without a solid foundation, the urge for social and economic betterment must come from within and not imposed artificially from without. This inner urge is at present lacking in the minds of those who live in the rural areas, and it is because of this that all movements for reform seem to be forced from outside thereby raising suspicion and reaction in the minds of the rural people instead of evoking a spirit of trustful co-operation. While leadership has its undoubted role to play, it cannot be of very much effect without its essential component, namely, an active, trustful, intelligent and well-disciplined spirit of followership behind it. The needs of the situation may therefore, be summed up by saying that the village wants more than anything else to develop a spirit of progress. This requires the spread of education in the villages as the *sine qua non* of progress. Education is the greatest need of the country. It is the first condition of progress, because it creates the *spirit* which inspires progress. An educated village—and by education we do not mean mere literacy—will produce its own reformers. It is only when the reformers will belong to the village that the real re-organization of our rural life will begin.

As matters stand now, it would be idle to expect that the villages would produce their own reformers. In fact, the villages

suffer from a double handicap. On the one hand, only an infinitesimal proportion of the rural people are educated, and on the other hand, even those who have been fortunate enough to receive education have left the village for the town. This export of talent has robbed the villagers of whatever guidance or intellectual stimulus they might otherwise have had for the reconstruction of their social and economic life. This export of talent has got to be stopped. It is, however, one thing to suggest that the educated youngmen hailing from the villages should go back to their ancestral homes and lend their hand in the task of social and economic improvement and it is quite another thing to be assured that they will actually do it. They have not passed any self-denying ordinance. The city offers them opportunities for a fuller life than the village. The educated man not only wants something with which to nourish his body but also something with which to nourish his mind. In these days of large-scale unemployment, neither the town nor the village offers the average youngmen with some education any immediate prospect of useful employment. But while the mind is atrophied in the village, the city offers him at least some satisfaction. Has not this satisfaction some importance in our scale of values? Can we reasonably ask the educated youngmen to go back to the village and starve his body as well as the mind? Can we ask him to commit intellectual suicide by forgetting his education and applying himself only to manual work for the simple reason that the society or the State cannot offer him adequate opportunities for the application of his faculties to national service?

The problem of village re-construction is thus to be approached from two points of view. In the first place we must inculcate the spirit of progress in the minds of the rural people, and the most effective way of doing it is by the spread of education. Secondly, we must so improve the material conditions of the village by providing the minimum amenities of a civilized life that the educated sections of the rural population might find it worthwhile to make the village their real home. It would be the aim of planning to bring about this transformation of the Indian villages. Its aim should be to do away with the present extreme disparities between rural and town life. This can be done by effecting a happy reconciliation between the conditions of town life and those of rural life.

Good roads, a plentiful supply of good drinking water, provision of healthy recreations, libraries, community centres, ample provision of health services—these ought not to be the monopoly of the towns. On the other hand the village with its agricultural complex and the luxury of open spaces ought to provide a welcome and necessary relief against the drab, dreary and overcrowded cities.

§ 2

EDUCATING THE VILLAGER.

The education of the villager consists of the twin problems of removing the illiteracy of the people by educating the children and educating the adult. The problem will be discussed more fully in the Chapter on Educational Re-construction. Here it will be only necessary to set forth the main outline of the problem from the point of view of village improvement. The following table gives the provincial figures of literacy :—

TABLE

No. per mille who are literate aged 5 and over

Provinces.	Persons.	Males.	Females.
Assam	93	156	22
Bengal	111	182	33
Bihar & Orissa	53	98	8
Bombay including Sind	108	176	31
C. P. & Berar	66	121	12
Madras	108	188	30
N. W. F. P.	49	80	12
Punjab	63	100	17
United Provinces	55	94	11

These figures refer only to British Indian Provinces and do not refer to the States. In some States the percentage of literacy is much better than in British India, but the general picture is one of extreme backwardness when compared to the achievements of foreign countries. It is evident that this problem can be tackled within a measurable period of time only by introducing a scheme of compulsory primary education. Education is now a provincial subject and the responsibility for introducing compulsory primary education is now a provincial responsibility. One cannot say that the Provincial Governments have been fully alive to this problem. The general complaint is one of want of funds. It should, however, be the business

of the planning authority to find the necessary funds for the purpose. In this attempt the planning authority will undoubtedly be fortified by the example of the Western countries. No apology is needed to refer to their achievements in this connection. The following extract taken from the Report on Unemployment issued from Geneva in 1935 will speak for itself: "In particularly every country," says the Report, "there are laws which require all children between specified ages to attend school at fixed times of the day during certain periods of the year. The age for this compulsory school attendance is nearly everywhere 14 years, or 14 years plus the time needed to complete school term or year. In some countries, however, the age is 15 In the United States, however, every city has a compulsory school attendance law and most of these laws fixed school living age at 16. On the other hand, there are other countries in which the limit is less than 14. For instance, it is 13 in Albania, Argentina, Columbia, Finland, France and Prince Edward Island, 12 in certain Canadian Provinces, Greece, Hungary, Portugal and Turkey and 11 or 12 in Yugo-slavia."* In all the Australialian ates education is compulsory until the age of 14 but there is no compulsory post-primary education except for apprentices. In Belgium, post-primary education is voluntary, while in France under an Act of 1919, all young persons of less than 18 years who did not attend full time classes must go for at least 3 years to free vocational classes established both for apprentices and other young workers. In Germany, all children who have completed their primary education, which extends from 6 to 16 years, and who do not pass into full time secondary technical schools, are obliged to attend post-primary classes up to the age of 18. The application applies to classes held from 4 to 12 hours a week during a period of at least 3 years. This education is given either in continuation schools or in vocational schools. In Sweden continued education is compulsory for young persons from 14 to 18. The instruction given which is sometimes of a general character, sometimes of a vocational character, is closely linked with the vocational guidance and service. In the Union of South Africa, there is no compulsory continued education but apprenticeship is compulsory in designated trades. In the United States of America there is a peculiar condition that before a child or young person may enter employment,

*Report III on Employment among Persons of the International Labour Conference at Geneva, 1935.

he is to apply for and obtain an employment certificate. Most of the States require employment certificates not only for factories but for employment in shops and numerous other occupations. These certificates are usually required up to 16 years of age and for reference to the degree of education that must be reached by the applicant or to his physical qualifications, though some of the States do not require any educational qualification nor fix any definite standard. In Great Britain, compulsory education ends at 14 plus, but the education Act of 1921 empowers local authorities to raise the age limit above 16. In some of the local areas, age has been raised to 15, unless suitable employment is available for them, in which case the children are only released if the authorities are satisfied that if they have to do so it will be to the child's advantage.

All these show the great importance that foreign countries belonging to different stages of prosperity and advancement have attached to the education of their children. Compared to the figures quoted above, British India makes a very poor show. According to the Census of 1931, there are 24 million boys between the aged of 5 and 10. In 1931-32, the Statistical Abstract for British India put the total number of boys in the primary classes at 7,377,257 so that we can assume that only about 30 per cent of the total number of boys who ought to be attending school are actually doing so. Below will be found a table giving provincial figures:—

TABLE

Provinces.	Total number of boys of ages 5 to 10.	The number of boys attending primary schools.
Madras	3,031,434	1,925,241
Bombay	1,486,771	882,563
Bengal	3,563,257	1,579,276
United Provinces	3,246,268	1,080,438
Punjab	1,691,328	380,315
Bihar & Orissa	2,642,921	771,763
Central Provinces	998,119	280,233
Assam	653,574	221,225

It will be found from the table that the progress achieved is not even in the different provinces. Thus the Punjab is the most backward

in respect of primary education whereas Madras seems to be the most progressive. The total expenditure on primary education came to about Rs. 681 lakhs in 1931-32, or a little less than Rs. 10 per scholar. In Bengal the expenditure per scholar is only Rs. 4 a year. It will no doubt be possible by a suitable re-arrangement of schools to bring down the total cost per scholar. On the other hand improvement of the primary schools will entail a higher cost per scholar. Assuming that in the result the cost per scholar will remain the same, the cost of universal primary education on a compulsory and free basis works out to Rs. 24 crores for the boys alone of which the present provision amounts only to Rs. 681 lakhs. The total additional liability of introducing compulsory primary education for the boys would thus come up to a little over Rs. 17 crores.

So far as the education of girls is concerned we find that at present the average cost of primary education per girl scholar is a little over Rs. 6 a year. On this basis, the total cost of universal primary education for girls would be Rs. 13 crores of which the present provision is Rs. 132 lakhs only, so that the total additional liability on account of free and compulsory primary education for girls would be a little less than Rs. 12 crores.

Thus, taking both boys and girls together, the total additional liability for introducing free and compulsory education of a primary standard would be about Rs. 30 crores. An attempt will presently be made to find out how this huge sum would be found for the purpose of financing free and compulsory primary education for whole of British India.*

*The cost of primary education in various countries is usually shared between the central authority and the local authorities, that is, from central revenues (or subsidies) and local rates as in England, Russia, U.S.A. and Japan. In France the central authority acts as the financial agent of the communes. The communes, especially the poorer ones, receive substantial state aid towards building expenses. The cost of public elementary education in England was estimated to be £57,500,000 in 1925-26 towards which the Board of Education contributed £31,237,000. The cost to public funds per child in average attendance for 1925-26 was estimated to be £11-9-3. In France, according to the Budget of 1920 the total cost of elementary education was about 200 million francs. The total cost of education (all grades) in Prussia in 1925 was 529,200,200 marks out of which 369,438,200 marks were spent on elementary education. In the U.S.A. there is scarcely any national (federal) expenditure on education, but a few states pay more than one-third and many others from 10 to 20 per cent, on the expense of schooling in the whole state regardless of local taxation. See a pamphlet on *Primary Education in Bengal* by Mr. Nalini Ranjan Sarker, Deshabandhu series, No. 1, Appendix.

§ 3

ADULT EDUCATION.

The problem of adult education may be approached from two points of view. One is the problem of preventing the adult who has received an elementary education from relapsing into illiteracy. The other is the problem of educating the illiterate adult. The first is the problem of "continuation schools". It is not necessary that the continuation schools should be of an academic nature or a mere duplicate of the primary schools. In point of fact, recent practice in Europe and America favours the establishment of such specialised types of schools for the adult as "Mechanics' Institutes" and commercial schools. The education is imparted mostly in the evening and the type of schools is meant to give factory workers instruction in the scientific principles of workshop practice and to impart training in such commercial subjects as typewriting, shorthand, book-keeping, accountancy, banking, insurance, railway administration, civil service, courses for solicitors or stock brokers, for secretaries or grocers' assistance etc. Admission to these schools is usually limited to those who have already passed the first school examination. In Great Britain the Education Act of 1918 (since included in the Education Act 1921) laid upon the Local Authorities for higher education the duty of establishing and maintaining day continuation schools in which suitable courses of general instruction (up to the age of 16) and with a vocational bias (from 16 to 18) were to be provided for all young persons, attendance being compulsory and free. The compulsory schools, however, met with certain administrative difficulties in their working and many of them had to be closed down. These were, however, substituted by the voluntary day continuation schools which were designed to supply the needs chiefly of the two types of juveniles: (a) those whose parents cannot afford to pay school fees but are to maintain their children while they are receiving a training designed to enable juveniles to escape "blind alley" occupations and (b) those who have the opportunity of earning and learning at the same time. The Act of 1918 also brought under continuous educational control those who had to give up education as soon as they entered business until they reached 18 years. Another special type of institution imparting training in the evening has been designed for those whose daily occupations are of a routine or a repetitive kind. Special offers

in these institutions are mainly practical, for instance, wood-work, metal work, hobbies, physical exercises and boxing, drawing and painting together with the amenities of club life. Similar provision has also been made for the corresponding type of girls in the (free) Women's Evening Institutes. It has been found in England that the employers have realised the importance of "further education" and are either co-operating effectively with the Local Educational Authorities or maintaining in their own works-schools and classes. Co-operation between the L. E. A.'s and the Boys Scout Association, girl guides, Church Lads' Brigade, Juvenile advisory committees, Toc H and organizations of this kind was said to be doing much to ensure that the work in the day elementary schools is carried to a more profitable stage in the day continuation and evening schools, and eventually into the polytechnics, higher commercial schools and the schools of art.*

In the United States continuation schools are found in more than half the States, the age of required attendance reaching 17 or 18 in several States. Generally 4 to 6 hours of day time attendance per week are required of all employed young persons between 14 and 16 years of age. One of the difficulties experienced in the United States has been that of providing competent teachers for continuation schools. Classes or groups formed in continuation schools are necessarily more heterogenous than are classes in ordinary public schools. Each teacher must meet from 150 to 300 pupils per week, "with a consequent dispersion of personal contact and impairment of understanding". The syllabus and the range of studies have also presented considerable points of difficulty. While profundity of learning is not aimed at, there are some who would impose a considerable range of studies, while another group would favour concentration on the part of the individual pupils according to bent, outside employment prospects and the like.

As regards commercial schools, urban high schools in the United States have in many instances to include commercial courses in the curricula. The better high schools now offer both short and long courses in the three following groups of

*See article on "Continuation Schools" by Mr. Beresford Ingram, Organiser of Continuation Schools, London County Council in the *Encyclopædia Britannica*, Vol. VI (14th Edition).

work: (a) Secretarial and Recording, (b) Accounting and (c) Selling. The Smith-Hughes Act passed in 1917 placed definitely upon the newly created Federal Board for Vocational Education the responsibility for making surveys to determine the actual commercial education needs of the country. The Board classified about 26 junior commercial occupations as a result of which commercial continuation high evening schools greatly altered their curricula to meet more adequately the needs of the junior workers who more often than not needed training in other commercial courses than book-keeping, typewriting and stenography.

It is to be agreed that a considerable part of the schemes of education outlined above would be inapplicable to rural India in her present circumstances. These schools may no doubt be tried in the towns and the industrial centres and children belonging to the educated middle classes might very well profit by such schools. So far as the villages of India are concerned, the main question is the education of the illiterate adult. The efforts made by such countries as the United States, Great Britain and other countries for the education of the adult are to a large extent inapplicable to the circumstances of this country. There are, however, certain points of interest both as regards the content of the education offered and the method of procedure in the systems adopted by some of the western countries. In Great Britain, adult education is now regarded as a training in citizenship. But the method of approach has been too scholastic to be of any useful guidance for India. The adult education centres in that country are, more or, less, like study circles with small classes meeting periodically, each class consisting of an hour's lecture and an hour's discussion, organised mainly with the help of the universities. In the United States also adult education efforts have proceeded on similar lines as in Great Britain though its original starting point was somewhat different. It was in 1826 that the first lyceum had been started in Massachusetts with a voluntary association of farmers and mechanics "for the purpose of self-culture, community instruction and mutual discussion of common public interests." Later on the movement was merged into the university extension movement. These facts only compel us to repeat that the British or the American analogy would not be of much use to India. Neither the report of the Carnegie

Corporation of New-York (1924) nor the British Ministry of Reconstruction report (1919) could be said to have laid down a standard that India could follow. On the other hand an instance of an American voluntary effort might be quoted with profit. In Dallas, Texas, representatives of the various community enterprises have formed a national community conference affiliated to the National Community Foundation. The latter organization is conducting, on an experimental basis, community organization activities and educational programmes in 60 small cities and towns of the Middle Atlantic States. Such community efforts provide a useful idea which may be followed with advantage by Indian educationists. The United States also offers an example in the matter of girls' education. Three million women in the United States belong to women's clubs in different towns and cities. The national and State officials draw up study materials which form the bases of educational programmes throughout the year. With the public school as the basic unit, hundreds of thousands of parents, chiefly mothers, are united in parent-teacher associations, child study groups, child welfare groups, etc. They are served by every national organization, each group being engaged upon an educational programme. In India, a country where 90 per cent of the people are illiterate the curricula of these schools will no doubt have to be different from those of their foreign counterparts. But the community organisations should certainly be set up under the guidance of the State, these organizations being manned in the initial stages by volunteers drawn from the educated classes under the direction of a central association. These volunteers will find in the proposed rural regional committees an excellent medium for the organization of voluntary associations in the respective areas. The curricula should be drawn up by the central association in each province with such local variations as the regional committees might determine in consultation with the central association. The aim of the education should not be so much to impart literary education to the adult masses as to educate them into knowledge useful to them. Normally the curriculum should include some training in the principles of hygiene, the care of health, elementary principles of economics with such special knowledge relating to the agricultural arts and sciences as may be suitable for the particular areas. In addition to the volunteers to be recruited from the educated classes, the Departmental

Officers belonging to the Provincial Government might also be instructed to meet the adult educational centres within their respective jurisdictions periodically. The basis of the plan lies in voluntary and honorary work. Only the staff of the central association and a number of touring officers need be paid. The normal education budget of the Province ought to be able to find funds for this staff. The whole scheme requires very careful and co-ordinated planning. Only the materials, and these also in their barest outline, have been supplied in this section; the formulation of the plan will depend upon the educational authority which is to be set up as part of the general plan.

§ 4

CIVILIZING THE VILLAGE.

The subject of education has been dealt with at length because, as has been already pointed out, education is the harbinger of progress. It is the only thing which compels the urge for progress, an urge which gathers strength from within. Efforts at reform had frequently broken down in the past because they had not been the result of a self-created urge.

Education, however, is only an indirect basis of progress. The life of the village has to be improved by providing it with the minimum amenities of a civilized life. Good habitable houses at a cheap cost, good roads suitable for village traffic, provision of rapid means of transport, an adequate system of drainage, provision of pure drinking water supply, a complement of hospitals and dispensaries, a midwifery training centre, provision of simple recreations, establishment of community centres with a public hall, library and school, a post-office and police station in every village—these are the minimum requirements which must be satisfied before a village can successfully establish a healthy contact between town-life and life in the village. This is largely a question of organisation and finance.

Our villages have to be planned and organised. There may have to be a re-grouping of villages in order that the cost of improvement may be conveniently shared by several villages. In other words, a regional distribution of villages is necessary in order to secure

the maximum economy of efforts and in the cost of improvement. In Chapter X a scheme of regional committees has already been explained. These regional committees should be the primary and most important unit of village re-construction. In the previous chapters, a number of functions have been assigned to these committees. Besides these specific functions, it will be the general duty, and the most important one, of these committees to work for the improvement of the village as a whole. The cost of the improvement can be brought down to a reasonable level by the enlistment of voluntary effort in the task. In several districts, useful work has been done with the help of voluntary effort. A considerable amount of national energy is now lying dormant in the shape of unemployment. This energy, under suitable direction, can certainly be organised for national service. This means that the problem is one of leadership. Mr. Brayne's efforts in the Punjab give us a necessary clue to the proper approach to this problem. It is hoped that the establishment of the planning authorities will lead to the discovery of the leadership that is so badly wanted. Organisations like the Youth Welfare Leagues, Better Living Societies and other community efforts are instances of voluntary enterprise organised under suitable leadership.

The community organisation is an essentially American idea.* Its aim is to heighten the social solidarity, to dissolve class and racial antagonisms, and to rouse the civic intelligence that would see through the smoke-screens behind which the political "bosses" do their dirty work. Three approaches to the idea of the community organisation which the United States has attempted may be briefly described. The first is the *Settlement* idea. The "settlement" is a local community the object of which is to make a living connection between the centres of culture and the centres of industry, where cultured people with their liberal outlook and broad sympathies would become the neighbours of the working people and the poor. The underlying principle is that of patient, systematic training of these people from childhood up, for their own uplift. The use of public schools where rooms owned publicly might be made use of by the citizen in the shape of public lectures, exhibitions etc., leads to the second approach to the idea of the community centre namely,

*H. N. Shenton : *The Practical Application of Sociology*, pp. 124-130,

the multiplication of *School Centres*. The third is the *Neighbourhood Association*. The first description of such a local body was thus given in 1918:—

“Given the local community with its streets, homes, vacant plots, public buildings, its many groups, and its lack of organization ; given the people that compose the real community, with their prejudices and predispositions, their inertia and their conservatism, also their love for broad fellowship and their capacity for co-operation when once they are brought together rightly ; given the local centres and the historic individuality of a certain locality ; given the larger government agencies—given all these and a desire to lead, the problem of the neighbourhood association is to mobilise these resources and human forces for the whole social welfare of the entire community.”*

Membership of a Neighbourhood Association is open to all “reputable citizens” of the district. Each organization is non-partisan, non-sectarian, and so far as the boundaries of the association are concerned, non-sectional. Each association is so organised as to give practical and real representation on the governing board to each recognised civic and social group working in the neighbourhood. It represents the most comprehensive of the community organisations.

In India, community organization is not a new feature of her social life. The village in India has been, since time immemorial, a “community”, long before Europe or America could think of the principles of community organisation. Each village community was based on the differentiation of functions but co-operation of the different classes and castes. The higher and lower castes were bound to each other by an organic relation based on the inter-dependence of each on the others, and marked by sympathetic understanding and willing co-operation. The village *Punchayat* was at once, a social, a political, as well as a legal institution. In many South Indian village communities, even the so-called “untouchables” used to take part in the decisions of the village assembly. The village in India is truly the focus of her social life. The village arts, the village fairs, the village festivities are as much part of the organic life of the Indian village as the deliberation of her *Punchayat*. Even with the enlistment of maximum effort on a voluntary basis there still remains the cost of solid hard work to do for the material improvement

*LeRoy E. Bowman, in the National Conference of Social Work, Kansas 1933, quoted by Mr. Shenton.

of village like the building of roads, hospitals and dispensaries, the introduction of efficient system of drainage, provision of filtered water supply etc. All these would require money, and the planning authority will have to find the necessary funds. Viewed from this sense village re-construction is a huge task. It would however, be suicidal to postpone the undertaking of the task merely because it is huge. Postponement in such a case means failure. Failure is not the object of planning. It is quite true that the task is a huge one, that it requires plenty of funds and perhaps a very long time to be executed. But if the nation puts its shoulders to the task from now, as each day's task is done the completion of the task would be a day nearer. The planning authority will provide the initiative as well as the direction. The main question will be one of finance.

§ 5

FINANCE.

The chief difficulty about the question of finance seems to be a lack of tradition, tradition for a bold and vigorous financial policy with its attendant risks and responsibilities. In his respect we have inherited the British tradition in a double sense. On the one hand the policy of "sound finance" has in practice come to mean a system of year-to-year appropriations and expenditure coupled with public borrowing for certain well-known and well-established purposes. The business of the nation is assimilated to that of a bank with its annual balance-sheets, with this difference that the profits, if any, are not distributed but carried forward into the next year's accounts. Under such a system a long view of public expenditure seems clearly impossible. Yet, recent developments even in British financial practice suggest that the system of annual budgets for financing national services is due for a revision. In India, Sir James Grigg, for instance, in spite of his predilections for sound finance, has not hesitated to start something like a rural re-construction fund the proceeds of which have been made available to the different provincial government for a period covering several years. It is evident that no national planning can be possible without a long view of income and expenditure, without extending the principle of re-constructional finance to its logical conclusions. This means, on

the one hand, a pooling of resources for purposes which seem unorthodox to the practitioners of sound finance to-day but which, nevertheless, might be the basis of a financial system of far greater soundness for the nation. In a previous Chapter* an attempt was made to show the extent of public borrowings even in such a financially orthodox country as the United Kingdom as well as in the British Dominions. The British Government as well as the public have not only invested large sums of money at home but also lent out vast sums abroad. There is no reason why India should not raise a loan for national re-construction. If it is not possible to raise the loan in the country itself, I see no reason why the necessary capital should not be borrowed from foreign countries with suitable safeguards. It has been pointed out, of course, that the amount of the borrowing will have to be limited by (a) the amount that the national budget will be able to spare for the service of such loans, (b) the taxable capacity of the people and (c) the amount that can be diverted from the security services to the national services in the existing budgets. A loan for rural re-construction answers pre-eminently to the conditions for which public borrowing may fitly be resorted to. A calculation has been made in § 2 above that the total cost of introducing free and compulsory primary education in British India will approximate to Rs. 30 crores. In addition there will have to be another fund for financing the urgent improvements that the Indian villages require before they can become fit for civilization. The question that now must be answered is how to raise the funds.

So far as the cost of education is concerned it is a clear case for additional taxation. Education is now a provincial subject but the provincial revenues are extremely inelastic as they are. A considerable part of the expenditure again is of a nature that does not admit of any appreciable reduction in the immediate future. No doubt a certain sum may be realised by reducing the cost of administration, wherever such reduction may be found to be practicable. It should be part of the duty of the planning authority to direct the appointment of retrenchment commissions in each province to find out the avenues of immediate as well as ultimate retrenchment. The question will further be considered in the chapter on

*Chapter V, § 2.

National Expenditure. It may suffice to point out here that in spite of the maximum retrenchment that might be practicable, there would not be sufficient surplus to enable the provinces to meet the cost of free and compulsory primary education. This will necessitate increased taxation. The scope of additional taxation in our country will be discussed in a subsequent chapter. It is only necessary to point out now that there are yet reserves of taxable capacity which can be tapped by a judicious re-construction and revision of the tax schedules.

As regards the loan for rural re-construction I suggest the institution of a Rural Re-construction Fund by slightly augmenting the existing expenditure on rural services and capitalizing it. At present the total local and municipal income in British India is about Rs. 50 crores. A sum of Rs. 25 crores only a year would be necessary to meet the interest charges on a loan of Rs. 700 crores at $3\frac{1}{2}$ per cent. The interest charges might be met in the following manner :— Local bodies and municipalities to contribute one-tenth of their income, say, Rs. 5 crores ; provincial contributions, say, Rs. 5 crores ; Central Government, Rs. 15 crores. Much of this would, no doubt be productive and reproduce itself. As a matter of fact it seems that the net liabilities of the government might not come to more than $\frac{1}{2}$ per cent or about Rs. 4 crores. It might, however, be pointed out that the entire sum of Rs. 700 crores would not be needed all at once but might be spread over a period of 10 or more years according to plan. The sum should be placed at the disposal of the central planning authority who should redistribute it to the provinces according to needs.

It would not be difficult to raise this sum, huge as it is, if the necessary financial guarantees were given by the Government. Much more money has been raised by some of the European powers for the purposes of re-construction following the War and there is no reason why India with her sound credit should not be able to raise this sum. On the other hand, if this sum is raised, it would mean—

- (i) electricity for the villages which to meet the requirements of domestic consumption as well as village industries ;
- (ii) extension of irrigation facilities ;
- (iii) reduction or avoidance of debt ;
- (iv) starting of agricultural cattle and dairy farms ;

(v) subventions to small industries including fruit, forest and fishery industries;

(vi) compulsory consolidation of holdings by payment of compensation where necessary ;

(vii) improvement of roads ;

(viii) construction of drainage sewers ;

(ix) construction of hospitals and free clinics ;

(x) supply of pure drinking water ;

(xi) grants to village libraries and recreation halls through regional committees ;

and the like. In India there are roughly 700,000 villages so that if the loan of Rs. 700 crores is distributed among them, every group of 10 villages would get approximately Rs. 1,00,000 for capital expenditure. The necessity of the re-grouping of the villages has already been indicated. With one lakh of rupees as the initial capital it would be possible to transform the whole of rural India provided the funds are properly spent and an excessive proportion of the money is not exhausted in meeting establishment charges or travelling or halting allowances. The proposal may seem a little unorthodox but unorthodox methods are required when the problem is so vast as that of the economic planning for India.

CHAPTER XVII

INDUSTRIAL PLANNING—ITS SCOPE AND IDEOLOGY

§ 1

INDUSTRIAL BACKWARDNESS OF INDIA.

The problem of industrializing India, and still more, the problem of doing it on a well-thought-out plan, is particularly difficult for a country of the size and of the complex interests of India. The number of persons employed in organized industries in this country comes up to a little over one per cent of the total working population. In the year 1930 the total number of factories subject to the Factory Act was only 8,143 of which 4,406 were seasonal factories. Amongst the British Indian provinces, Bombay accounted for the largest number of factories, namely, 1,541, while Bengal came second with 1,471 and Madras a close third with 1,470 factories.

TABLE

Growth of Factories during 1922 to 1931.

Year	Number of Factories.	Number of average hands employed daily.
1922	5,026	1,361,002
1923	5,973	1,409,173
1924	6,406	1,455,592
1925	6,926	1,497,158
1926	7,251	1,518,391
1927	7,515	1,533,382
1928	7,863	1,520,315
1929	8,129	1,553,169
1930	8,148	1,528,302
1931	8,143	1,431,487

It will be found from the above table that not only is the number of factories in India too few to serve the needs of this vast country but the rate of progress has been remarkably slow. If, however, we take 1928 as the base year (=100), we find that the industrial production of India increased by a percentage greater than the world percentage during the years 1928 to 1936. The following table gives the comparative figures for some of the important countries :—

TABLE*

<i>Industrial Production in 1936 (1928=100)</i>			
<i>World Total</i>	... 118	Norway	... 126
Great Britain	... 124	Poland	... 72
Germany	... 108	Hungary	... 131
France	... 78	U. S. A.	... 95
Italy	... 100 (1935)	Japan	... 182
Austria	... 82	Canada	... 97
Sweden	... 154	British India	... 133

The figures suggest that during the years 1928 to 1936 the industrial production in India has increased faster than world production. However, though progress has been rapid in the comparative sense, it is quite evident that considered in the absolute sense India is yet far from satisfying the full requirements of her industrial life. Another thing to note is that of the total number of Indian factories, more than half are seasonal establishments.

The same conclusion is arrived at if we refer to the number of joint-stock companies operating in India. In 1931-32 the total number of joint-stock companies working in India was 7,997 with a total paid-up capital of Rs. 286 crores. By 1932-33 the number of companies had risen to 8,715, but the total paid-up capital had increased only by a very slight amount so that the average paid-up capital of each company had fallen from Rs. 3'6 lakhs to Rs. 3'3 lakhs. Two significant facts stand out from these figures. One is that since 1924-25 though the number of joint-stock companies has steadily increased from 5,204 to 8,715, the average paid-up capital has steadily diminished from 5'5 lakhs to 3'3 lakhs. The following table which gives the total number of Joint-Stock Companies registered in India and at work during the decade 1923-24 to 1932-33 may be regarded as an index of business enterprise in India.

TABLE

Companies registered in British India:			Companies registered in Indian States :	
Year	No.	Paid-up Capital. (In crores of Rs.)	No.	Paid-up Capital. (In crores of Rs.)
1923-24	4,820	255	391	11
1924-25	4,822	267	382	9
1925-26	4,926	268	379	9
1926-27	5,156	267	370	10
1927-28	5,388	267	442	10
1928-29	5,795	269	535	10
1929-30	6,313	275	606	11
1930-31	6,675	271	653	11
1931-32	7,092	274	905	12
1932-33	7,544	274	1,175	12

It will be seen from the above table that though during the decade the number of Joint-Stock Companies increased by about 60 per cent in the case of British India and by 300 per cent in the case of the Indian States, the paid-up capital per company declined considerably in either case. This clearly indicates a tendency towards a rapid decline in the size of the business unit. In this significant fact is to be found the clue to the understanding of the industrial problems of India. In contrast with these figures it may be mentioned that during the same decade the number of Joint-Stock Companies registered elsewhere than in India but working in British India increased from 722 to 857 and their paid-up capital also increased from £578 millions to £820 millions, thus showing that the average paid-up capital per company increased from about £800,000 to about £1,000,000 during the decade.

A cognate fact to note is the large number of company failures in India. Since 1924-25 the total capital represented by the companies that ceased operation amounted to a little over Rs. 59 crores.

The measure of progress achieved by the different provinces has not of course been equal. Of the British Indian provinces, Bombay leads with 1,541 factories, Bengal comes second with 1,471 factories and Madras comes a close third with 1470 factories. Of the other provinces, C.P. and Berar accounts for 734 factories, Assam 622, the Punjab 506, U. P. 424, Bihar & Orissa 280 and

N. W. F. P. 26 factories. Bengal leads in the number of perennial factories with 1,065 factories while Bombay comes second with 794. In Assam on account of the plantations, there are only 45 perennial factories as compared to 577 seasonal factories. In C. P. and Berar also, the seasonal factories (632) preponderate over the perennial factories (102).

These facts carry a lesson. In the first place, the figures, as stated above, reveal the inadequacy of industrial development in the country. Secondly, they reveal that proper guidance is wanting for many of those who have been enterprising enough to start industries. Thirdly, it is evident that without such guidance the rate of growth of industries in India is likely to be very slow. All these argue the immediate necessity of initiating a comprehensive plan of industrial development.

§ 2

THE FORWARD MOVE.

The necessity is further borne out by the fact that rapid industrialization alone can help India to hold her own against the highly industrialized countries like Europe, America and Japan. It is the commercial spirit which makes a country rich and powerful. Manufacturing or industrial enterprise promotes that spirit. India has been wedded to an exclusively agricultural economy for more than half a century now with little opportunities for cultivating the industrial arts.

It is not necessary to go into the history of the circumstances which have reduced the position of India from a country exporting manufactured goods to a country importing manufactured goods and which have been responsible for the slow growth of Indian industries. But a study of the economic history of India during the 18th and 19th centuries will reveal the fact that the main cause of India's backwardness lay in the policy followed by the British Government and their agents in India towards the Indian industries. Not only were British statesmen content to encompass the ruin of the Indian industries but they actually took pride in that fact. Thus, Sir John Strachey, Finance Member of the Government of India, uttered the following words in course of his Financial Statement on the 15th March, 1877 :

"We are often told that it is the duty of the Government of India to think of Indian interests alone, and that if the interests of Manchester suffer, it is no affair of ours. For my part, I utterly repudiate such doctrines. I have not ceased to be an Englishman because I have passed the greater part of my life in India, and have become a member of the Indian Government. The interests of Manchester at which foolish people sneer are the interests not only of the great intelligent population engaged directly in the trade in cotton, but of millions of Englishmen. I am not ashamed to say that there is no higher duty in my estimation than that which I owe to my own country. I believe that our countrymen at home have a real and very serious grievance, and that it is no imaginary injury against which they complain"

One is tempted to compare with this exhibition of an Englishman's sense of duty to his own country at the expense of India whose salt he had been eating, the following bold declaration by Sir Alexander Galt of the fiscal policy of Canada in 1859, a declaration that was made in spite of the opposition of the Colonial Office and the protests of the British Chambers of Commerce :

"Self-Government would be utterly annihilated if the views of the Imperial Government were to be preferred to those of the people of Canada. It is, therefore, the duty of the present Government distinctly to affirm the right of the Canadian Legislature to adjust the taxation of the people in the way they deem best—even if it should happen to meet with the disapproval of the Imperial Ministry."

It is this policy of active opposition on the part of the British administrators during the most important period of British Indian history which supplies the key to the understanding of the subsequent economic history of India. The spirit of opposition is even now felt, though not in the blatant and pronounced form in which Sir John Strachey had expressed himself, by Indian industrialists and others who want the government of the country to adopt a vigorous and forward policy of industrial development. Since, however, the adoption by the Government of India of a policy of discriminating protection, a considerable impetus has been given to the industrial development of the country, though here again a number of recent fiscal measures suggest that the policy laid down by the Indian Fiscal Commission (1921) is being slowly revised in favour of a system of tariff reciprocity with the United Kingdom regardless of the opinion of the Indian Legislature. All these argue not only a rapid industrialization of the country but the necessity of the formulation of a national economic policy with regard to the same. When once

this is realised, the case for the industrial planning of India will be complete.

As it is, our dependence on foreign countries is yet a matter of concern ; for a great part of it should undoubtedly be replaceable by Indian manufactures. The following table will explain the position.

TABLE
Total Imports into India.

Country	1936-37	1937-38
	Rs.	Rs.
United Kingdom	48,06,66,516	51,82,36,251
Other Empire Countries	13,60,31,269	43,21,11,799
Total Empire Countries	61,66,97,785	95,03,48,050
Foreign Countries	63,57,07,640	78,41,75,634
Grand Total for all Countries	125,24,05,425	173,45,23,684

It is well-known that by far the largest proportion of the value of India's imports is contributed by manufactured or semi-manufactured goods. Some of the items that we now import are not at present manufactured in India. Others are not manufactured in sufficient quantities. A point inviting immediate attention is the fact that we are even now importing many articles of common use which could be produced in quantities sufficient to meet the full requirements of India. The development of the sugar industry has been a pointer to this fact. The following are some of the other articles in respect of which India has every reason to be self-sufficient.

TABLE
(Imports in Rupees)

	1937-38	Pre-War Average
Electrical goods	3,46,75,000	70,27,000
Woollen goods	3,30,07,000	3,08,37,000
Glass and glassware	1,51,88,000	1,61,92,000
Toilet Requisites	67,85,000	20,48,000
Hosiery	29,04,000	92,86,000
Umbrella and fittings	28,06,000	41,95,000
Soap	24,46,000	61,87,000
Matches	20,44,000	88,21,000

It is not necessary to burden this section with any more statistics to prove what is already a patent fact, namely, that India stands badly in need of a comprehensive policy of industrial

development. It is, however, desirable in this connection to point to two relevant factors which are often lost sight of. One is that it would be more harmful than beneficial to India, having regard to the requirements of her agriculture and commerce, to strive for the goal of complete economic self-sufficiency to be achieved regardless of cost. In Chapter II, I have endeavoured to explain that a planned economy does not necessarily mean an end of the competitive system involving an end of international trade. It means on the contrary, rationalization of competition. The world is moving towards a system of complementary production. Trade agreements reflect the new economic necessity. It cannot be to the lasting interests of the masses to buy goods at a permanently high price in a protected market when they could have similar goods at a cheaper price. Indian factories, in short, should concentrate only on those lines of production for which they have got the necessary equipment in the shape of raw materials, labour, power resources and a stable market. Secondly, India should also try to develop the heavy chemical industries and such key-industries as iron and steel, shipping, coal, electricity, etc.,—industries that are valuable because of their power to nourish other industries. Thirdly, attention should be directed to such industries as have military or strategic value. Motor transport, aeroplanes, machineries, electrical goods and the like belong to this description. Fourthly, we should actively encourage the small producer who is such a necessary complement to the existing agricultural economy of the country and who contributes an element of stability and security to the political system of the country. Finally, we should take care that the food resources of the country are properly developed in order that at least in this one respect India may continue to be independent of foreign countries. These are the requirements of the industrial plan which should guide the future development of Indian industries.

§ 3

NECESSITY OF A SURVEY.

The first desideratum of an industrial plan is a full survey of the industrial possibilities of the country. Several provinces have already undertaken the task. In a year's time these surveys are expected to be completed. It is not the intention of the present

chapter to anticipate the results of such surveys. A few governing principles may, however, be indicated. A rough survey of the existing distribution of industries will reveal the fact that most of the industries of India are concentrated in a few industrial centres, namely, Bombay, Calcutta with the districts adjoining it, Ahmedabad, Cawnpore, Jamshedpur, Madras and till recently Rangoon—these areas almost exhaust the list of industrial centres in the country. To a certain extent localization of industries cannot be avoided and is perhaps advantageous to the country as a whole. The conditions for the development of a manufacturing industry are largely of a geographical nature, and such development depends mostly on the existence of advantageous economic “relations” with such cognate factors as transport, labour, capital and natural resources.* It is evident, therefore, that any attempt to “delocalize” the industries is attended with grave risks unless such delocalization results actually in an improvement of the existing economic and geographical relations. It is, of course, necessary to satisfy oneself whether the existing location of the Indian industries meets the requirements of such industries. Thus, for instance, a number of new industries have been developing as a result of the policy of protection and it is essential to find out whether they are suitably located with reference to primary geographical and economic factors. In protecting the industries the Government of India have assumed a responsibility, however indirect, for the development of those industries in the most economical and productive manner and for safeguarding the interests of the consumer *vis-a-vis* those industries. The following remarks made by Professor G. C. Allen apply as much to Indian conditions as to British circumstances:—

“Certain general influences exert themselves to produce from time to time definite trends in localization ; but the selection of the actual sites for industry in the past has been largely haphazard. Specious arguments have been advanced to explain how trades have come to be located in the

*“Natural resources are much more important for the production of goods of the first order, *e.g.*, wheat, tea, timber, and coal than for the later stages of production. Paper and wheat flour may be manufactured almost anywhere, and the location depends entirely upon the economics of transport costs. Cotton-spinning is favourably affected by a moist climate; but if additional expenses may be incurred, it is possible to provide moisture in a dry climate. Localization of industry depends upon the distance relations of all places with reference to natural resources and consumers’ markets, and the transportability of various goods.” P. S. Lokanathan: *Industrial Organization in India* (1935) p. 55.

areas in which we find them; but if one tries to relate these general explanations to the history of the pioneer firms in the different industries, one is left with a feeling of intense scepticism. Frequently a trade has been localized in one area rather than in another through chance or through temporary advantages attaching to a particular site. Such developments may have been inevitable in the past; but now a days, when new concerns are usually launched on a great scale, a long view is surely necessary in determining their localization, and some form of public control is certainly required. It is not generally recognised how wasteful in the utilization of labour is the present unco-ordinated method of choosing sites.”*

Thus in India, which is a country of vast distances and difficult communications, good transport relations constitute an important factor of the location of an industry. Moreover, it is also obvious that on account of the same factor most of the industries in India are more likely to have limited regional markets than all-India markets. In some cases, the relative costs of transporting raw materials and fuel determine the location of an industry. In some cases economic factors may also preponderate over the influences of the geographical factor and produce a distinct tendency towards delocalization or “deglomeration”. The question of wages, the incidence of provincial taxation, rates of freight—these may very well lead to a transference of industries from one part of the country to another. Similarly, a particular agricultural policy followed in one province may have undesirable repercussions upon industries which may have to depend upon such agricultural produce by placing restrictions of an economic nature on the development such industries. Thus the policy which is being followed jointly by the Governments of the United Provinces and Bihar may have interesting reactions on the sugar industry of the other provinces. It is evident that in all these as in other matters there is want of systematic thinking. The industrial situation, as a result, is fraught with inherent contradictions not only on account of the haphazard and accidental development of many of the Indian industries in the past but also on account of the contradictory policies followed by the different provincial governments with regard to the agricultural industries. A survey of industrial conditions in India will throw a lurid light on the evils that are implicit in the existing system.

*See article on “Labour Transference and Unemployment Problem”, *Economic Journal*, June, 1930.

Coupled with the evils of faulty localization, there are the evils due to the fact that India depends much too exclusively on a limited number of industries.* Excessive specialization and dependence on a few industries are attended with serious risks, as has been fully brought out by the misery experienced by Bombay during the depression. The same has been the case with Lancashire. Considerations of a war-time economy also suggest an immediate diversification of Indian industries. It is, therefore, necessary that the survey should not only deal with the existing industrial conditions but also with the possibilities of industrial development in various directions.

Finally, the survey should include not only what are commonly known as the organized industries but also the medium-sized, small and cottage industries. Statistics relating to small industries are very inadequate in our country. The importance of such industries cannot be exaggerated in the existing conditions of India. It has already been indicated (§ 1) that as compared to a million and a half labourers engaged in organized industries, over 13 million workers are engaged in other industries which are not covered or protected by the stringent conditions of factory laws. Due to the existing difficulties about industrial finance it will be reasonable to assume that the future industrial development of India will mostly lie in the direction of small industries. Moreover, the small industries, particularly those which are carried on in the cottages either as principal occupations or as occupations subsidiary to agriculture are admirably suited to the genius of India. In the chapter on Village Industries Association, a way of approach for dealing with these industries has been dealt with. Not only in the villages but also in the towns small-scale industries give employment to a large number of workers. In the towns, such industries as rice and flour mills, glass works, brass and bell-metal industries and the like support a large number of workers, while in the rural areas, such industries as *gur* making, rice pounding and husking, cotton ginning, flour grinding, toy making, carpet weaving, basket making and various other similar industries are carried on as occupations subsidiary to agriculture. The total wealth produced by these workers

*During 1901 to 1913 the total new investment in joint-stock companies in India was about Rs. 40 crores—more than that of the preceding 40 years. Industries such as cotton, jute, coal, tea, oil and banking contributed nearly Rs. 30 crores out of the total addition of Rs. 40 crores.

is not inconsiderable, but the real significance that attaches to these occupations is that they enable to convert the idle hours of the agriculturists and workers, who would otherwise be unemployed, into useful wealth. It is no doubt true that these workers do not at present enjoy a high degree of productivity; that the output per worker is comparatively small; that the quality of the products also suffers by comparison; that the methods are primitive and the markets poor, limited and elementary; and that there is no organization to inspire them with new ideas or educate them into modern industrial and commercial technique; but all these will have to be tackled by the planning authority.

An industrial plan, finally, will obviously have to look ahead and not be satisfied with the limitations set by the existing conditions. It has already been noticed that the development of Indian industries should include the heavy as well as the key industries, and if capital for these industries is lacking that should be no excuse for giving up the plan as a bad job but on the contrary should stimulate the framers of the plan to discover ways and means how the difficulties can be removed. In the next chapter the case of the organised industries will be discussed.

§ 4

THE PHILOSOPHY OF INDUSTRIALIZATION.

Before, however, this chapter is concluded and the details of the plan are discussed in the next chapter, a digression may be allowed for the purpose of discussing an aspect of the problem which has been raised in an acute form by such thinkers as Dr. Rabindranath Tagore and Mahatma Gandhi. I refer to what Dr. Meghnad Saha calls "the Philosophy of Industrialization". The machine is often regarded as a monster which sucks the blood out of millions of workmen and render them into lifeless automatons. The dirt and squalor of factory life is placed in contrast with the luxurious living of the industrial magnates to lend strength to the argument against the development of large-scale industries. The "exploitation" of labour by capital is put forward as a convenient slogan to typify the new attitude. To be fair, one must admit that these thinkers are not against the accumulation of wealth as such: what they are up against is the concentration of wealth in the hands of the few which leads to the general

impoverishment of the masses of the people. The watchword of efficiency, the dead monotony of routine, the tyranny of competition, the mechanization of human relationships—all these sum up the main points of the tirade against the modern factory system. Any one who has read Dr. Rabindranath's "Red Oleanders" will hardly fail to be impressed with the fact that in dealing with the factory system he is up against a soul-less monster who is nothing short of a menace to the spiritual development of man, and unless the Man is rescued out of the bondage of his own creation and of the tentacles of lifeless and life-killing steel, there is no hope for him in the expansive world of Truth, Beauty and Humanity. And Dr. Tagore is not alone in thinking so.

It is perhaps necessary to break the hypnotism generated by the soft lullabies of a philosophy of inaction, before national effort can be enlisted in the gigantic task of industrial planning. In other words, as Dr. Saha has described it, a Philosophy of Action for National Reconstruction is called for to infuse confidence in hearts that are assailed by doubts and scepticism. The philosophy of action which Dr. Saha has propounded depends on the fact that both rural reconstruction including the improvement of agriculture and industrial development require the aid of science and technical skill. They require, in addition, a considerable diminution of the present pressure on agriculture. We make no apology for quoting the relevant extracts from Dr. Saha's excellent paper contributed to the *Modern Review* on this subject* :—

"There is a widespread desire for improving the lot of the peasants and to raise the general standard of living. But how can this be achieved? Not by an exodus of the townsmen to the villages, as advocated by certain persons distracted by middle class unemployment, for that will merely increase the pressure on the over-congested rural area and multiply misery. Greater efficiency in agricultural methods, which is certainly desirable may give us more and cheaper food and other necessities of life obtained from agriculture (like cotton), but it can never touch even the fringe of the problem of poverty and unemployment. For greater efficiency amounts to the fact that the same production in agriculture can be effected by half the present number. At present the proportion of food raisers of 66 p.c. They produce food materials and other products by the most primitive methods. If improved scientific methods are adopted, larger amounts, more than sufficient for the whole nation, can be produced by 30 p.c., of

* *Modern Review*, July, 1938.

the population. This will render about 86 p.c., of the peasant population unemployed. This, added to the already existing middle class unemployment, will make matters worse.*

"If we analyse the widespread public sentiment for better living, what do we find? Everybody of course wants his food supply to be insured, but this is the least part of his demands. He wants to be better clothed and better housed; wants to get a better education for himself and his family, more rest from work, freedom from drudgery and greater enjoyment of life. Analysing this sentiment, we find that if these needs are to be satisfied, the quantity of industrial products has to be increased ten to twenty times its present level; all these works have to be organised, and a large proportion of the village population is to be diverted from the task of food raising to industrial work. In fact the only way to improve the villages is by drafting more villagers into cities, and by creating a larger number of cities based on industrial work."

Dr. Saha points out that the technique used by the most advanced countries of the world at the present time is so complex that it would be very wrong to classify it as the continuation of the primitive Iron Age culture. "It constitutes", he adds, "entirely a new phase in culture, distinguished not only by a new system of industrial production but also by a new philosophy of human life." Human activity in the present age springs from the conviction that by the application of science we can attain to a much better standard of living and in general to a much better world. Dr. Saha illustrates this by means of the following concrete calculation:

"In the western countries which have taken to the neo-technique methods, calculations show that nearly 1,800 units of work are required per head in the year for producing all the necessities of life. But if production of work depend mainly upon human and animal power, as in the paleo-technic countries, then we could not get more than 90 units. The modern neo-technic man, therefore, requires 20 times more power than the paleo-technic man. In the advanced countries this power is provided by harnessing the forces of Nature by the use of coal, oil and water-power. To use figurative language—the Westerner has, by the harnessing of the forces of Nature, got 20 slaves constantly working for him, while countries still accustomed to older methods have to depend upon human and animal labour which, on the average, is merely equal to the labour of one slave."

*We have already quoted the case of Australia where the rural population consisting of about 30 per cent of the total population not only produces a sufficient quantity of food for the whole country but has in addition a considerable exportable surplus. See page 94 *q. v.*

The achievements of the neo-technique man are well exemplified in the progress of the Western nations. Even Japan has revolutionized her ancient life by the re-modelling of her small and cottage industries. This has been done, as Dr. Saha reminds, by instituting a cheap supply of electrical power which enables the Japanese worker to work in his cottage with up-to-date machinery. He is also assisted by the State in the matter of research, supply of raw materials, marketing of finished products etc. We have already seen what help the Japanese Government allows to the fishery industry of Japan. The Japanese weaver, again, does not work with the handloom or the *charkha*, but uses the Toyada-loom which is driven by electricity. It is no wonder that his industrial output is ten to twelve times larger than that of the Indian workmen. Thus the Indian system, if it cannot adopt immediately the technique of the West, can certainly turn to Japan for inspiration; for it is estimated that more than half of Japan's industrial production comes from the cottages.

No apology is, therefore, needed for laying down the dictum that in the development of industries lies the real welfare of India. A fully developed industrial India will bring prosperity not only to the industrial and commercial classes but also to the rural population. In fact, it is the most important condition for the improvement of the general standard of living of the country as a whole.

CHAPTER XVIII

ORGANIZED INDUSTRIES

§ 1

INTRODUCTORY.

A national economic policy should embrace not only the big industries but the smaller industries as well. This is particularly true of India which, like Japan, has a large number of cottage and small industries dotted all over the country giving employment to millions, working along traditional lines, but always unorganized, uninformed, under-capitalized and generally slow to take up improvements and new ideas and otherwise unable to face the competition of the highly industrial countries of the West. For obvious reasons it is not possible to adopt a radical policy that will immediately wholly supplant these cottage industries by large-scale or collectivist organizations. The chief aim of industrialization in India should rather be to provide for a rapid development of the organized industries and at the same time to secure a proper co-ordination of these industries with the cottage industries that even now feed millions of our labourers. It may be repeated that as compared to a million and a half engaged in organized industries over 13 million persons are engaged in other industries which are not covered or protected by the stringent conditions of factory laws. That does not, of course, mean that India has been doing nothing in the matter of starting large-scale industries.

A considerable measure of progress has been achieved in recent years. In 1913-14, the total production of cotton piecegoods in Indian mills was 1,164,300,000 yards. In 1933-34, it was 2,945,000,000 yards, the increase being 153 per cent in 20 years. If we took the 1928 level of production as 100, the index of production in the cotton mills of India rose to 141 in October, 1933. The output of steel during

the same period rose to 175. The index of industrialization is evident also from the fact that during the 16 years 1913-14 to 1928-29 India's imports of iron and steel goods increased from 1,018,200 tons to 1,169,900 tons. The pre-War average of imports of the instruments of production such as machinery, millwork, etc., was valued at Rs. 5,61,14,000 which in 1928-29 rose to Rs. 18,36,04,000. A useful index of the industrialization of a country till recently was the export of manufactures. Though the present restrictions on international trade have made this test practically valueless, the following figures will prove interesting as they refer to the pre-depression period. In 1913-14 the export of manufactures from India constituted 23 per cent of her total exports. In 1928-29 it rose to 27 per cent. It is significant that the depression did not very much disturb this percentage. One important result of the policy of industrialization has been the practical elimination of the imports of Java sugar by the production of the Indian mills. These figures are no doubt heartening in so far as they establish the fact that India has been progressing in her industrial career. But the pace of the progress and quantum of the progress achieved have been relatively too small to justify any spirit of complacency with the existing affairs.

§ 2

THE QUESTION OF AN OPTIMUM UNIT.

That the industries of India require a rapid pace of development is now established. But before a policy of rapid development is initiated, there should be a thorough grasp of the factors that must be taken account of in determining the progress of Indian industries. Some of these factors may now be considered.

In the first place the optimum size of the industries should be settled. This is a very difficult task because of the many circumstances that influence the size of an industrial unit.* The working of some of the industries which have already had a fairly long life in the country reveals certain results which may form the basis of the calculation of what should be optimum size of the industry concerned. Dr. Lokanathan has made certain calculations in this regard. He has pointed

*See P. S. Lokanathan: *Industrial Organization in India* (1935) Chapter 3.

out that any indiscriminate application of foreign standards would not be of much assistance to India. The representative spinning mill in England, for example, was considered in 1911 to be of the size of 100,000 spindles whereas about a third of the total number of spinning mills in India belonged to a class having a range of 10,000 to 20,000 spindles and a large majority of the total number were those having 50,000 or less number of spindles. This was about 30 years ago, when the Indian cotton mill industry was essentially a spinning industry. Since then the Indian mills have taken to weaving and the mills doing spinning only are not of very great importance. The Bombay Millowners' Association in the statement to the Tariff Board expressed the opinion that a mill with at least 30,000 spindles and 1000 looms was the minimum size required to ensure the cheapest cost of production. On the other hand, the Ahmedabad Millowners' Association expressed the opinion that a mill with 25,000 spindles and 600 looms would be conducive to efficient economic working. According to the estimate of the Bombay Association, 158 out of 277 mills would have fallen below the minimum and according to the standard of the Ahmedabad Association, 127 mills out of 277 would still be below the standard. After a careful calculation of all the facts, Dr. Lokanathan comes to the conclusion that "mills having spindles below 30,000 and above 75,000 do not do as well as those within these limits."* In other words, mills which are either too small or too large are not capable of showing a maximum efficiency, though there are of course exceptions to this rule. Dr. Lokanathan has also come to the conclusion that size has been a distinct factor in efficiency. He has quoted facts to show that the larger Bombay units are perhaps more economical in working than the smaller Ahmedabad units and that neither the labour troubles of the Bombay mills in recent years nor the comparative prosperity of the Ahmedabad mills are to be ascribed to the larger size of the Bombay units or to the smallness of the Ahmedabad units. There are factors which in Bombay neutralize the advantages of size, and in Ahmedabad minimise the disadvantages of size. From this Dr. Lokanathan arrives at a certain relation between what he calls the managerial optimum and the technical optimum. "Where the managerial optimum is bigger

*Lokanathan : *Industrial Organization in India* (1935), p. 98.

than the technical optimum there will be no difficulty in expanding a business unit, for what it requires is only a duplication of plants. Where, however, the technical optimum is higher than the managerial optimum the former has got to adjust this to lower level, viz., that set by the managerial optimum, because otherwise these economies will result and cost will increase."* The organization of Indian industries, therefore, must not only take note of the size and the technical equipment of the industrial unit but also the efficiency of the management.

Similarly, Dr. Lokanathan's study of the jute mill industry leads him to believe that the optimum size is represented by the mills having over 500 but less than 1500 looms. He shows that the biggest mills do not show the highest profits and indeed the two biggest concerns having 1,952 looms and 1,744 looms respectively show the least average rate of profit. The majority of the Andrew Yule mills are of the size of 500-1000 looms, the reason being that the late Sir David Yule was a believer in starting in a small way and held that from the purely technical production point of view a mill having 500-1000 looms was a reasonable size, and that 3 or 4 mills situated close to one another and having similar equipment and plant and buying raw material from a central office in the managing agency firm would be a check on one another in regard to cost. The economy of management and supervision, of central buying and selling and of finance is secured by the system of several mills being managed by one agency firm.

With regard to the coal industry the same author finds that the average coal unit producing second class coal is distinctly smaller than that producing first class coal. The smallness of the colliery units prevents economic working and makes the utilization of electric power difficult. This points to the necessity of promoting amalgamation of the smaller units if they are to work at a profit. Incidentally it might be mentioned that the average output of coal per worker in British India (1928) was 131 tons as compared to 707 in the U. S. A. (1927) and 444 in South Africa and Rhodesia. The wasteful methods of mining followed in India aggravate the position still further. The Coalfields Committee (1920) estimated that the quantity of coal destroyed or lost by present methods to be one-third of the total

**Ibid.*, p. 101.

coal raised. So far as the size is concerned it must, however, be noted that in the coal mining industry it is not merely the size but the quality of the coal that is raised and the level at which the coal is worked that are equally important factors. Generally speaking, the larger ones in each class of colliery have a better survival value than the smaller ones.

On the question of the iron and steel industry, the Balfour Committee on Industry and Trade have calculated that a modern steel plant must have a minimum capacity of 300,000 tons of finished steel annually if it is to work economically. The Tata Iron and Steel Works at Jamshedpur has an annual capacity of 600,000 tons of finished steel. The Tariff Board (1924) thought that with an annual output of 400,000 tons the firm would be in a position to secure the lowest average cost per ton. In fact, Dr. Lokanathan is critical of the waste that a large plant involves if it is not worked sufficiently. Thus, the Tata Works actually has an output that has not exceeded 450,000 tons; and he quotes another writer for the view that the most efficient method of producing a small quantity of steel is to produce it in a small furnace and not in a underworked or overstaffed large furnace.*

This kind of waste is also apparent in the Indian cement industry. A large number of cement factories have recently been established in India with the result that the maximum productive capacity is at present estimated to be far in excess of the present needs of the industry with the result that many of them have to be content with turning out only a fraction of their maximum output. The location of a cement factory is an important factor provided, however, a factory is located properly and is worked properly with an up-to-date plant, so that even a single kiln factory producing 150 to 200 tons a day and having a capacity of about 50 to 60 thousand tons per annum might be capable of economical working. Dr. Lokanathan has estimated that 60 to 70 per cent of the capital cost of a cement factory is incurred on machinery and plant and for this reason the average Indian firm is at a great disadvantage compared with the British firm which have an advantage of nearly 20 per cent in capital cost. He has calculated that the capital cost of a good cement factory with a

*E. A. G. Robinson: *Structure of Competitive Industry*, p. 95

capacity of 60,000 tons comes to about Rs. 54 lakhs, thus showing that it is an industry which requires a large amount of capital.

The sugar industry is another industry that has come into prominence in recent years. Its growth has indeed been remarkable. In the year 1931-32 the total number of cane factories working in India was 32 only, with a total production of 158,581 tons. In 1936-37 the number of factories increased to 137 and the output to 1,111,400 tons. During the same period the import of sugar into British India dropped from 438,797 tons to 11,960 tons only. The Tariff Board on the sugar industry was of the opinion that for the running of an economic factory the scale of output must be about 4000 tons of white sugar crushing about 50,000 tons of cane per season of 100 days. A crushing capacity of 500 tons of cane daily was considered to be a proper standard. Dr. Lokanathan thinks that the majority of the sugar factories have since been planned on proper lines. But the factories are subject to two important limitations, namely, the ability to get good sugarcane and the cost of transport. That the limitation as regards the cane crop may have been exaggerated is suggested by the fact that only about 15 per cent of the total cane crop is crushed by factories all over India though in Bihar which has seen the largest development of the sugar industry no less than 49 per cent of the cane crop is crushed by the factory.* A doubt may, however, be expressed as to whether the sugar industry has really been organized on the most economical lines, whether, indeed, its prosperity has been solely due to a generous measure of protection. Even now the sugar industry compares very unfavourably with the Java industry in all important respects. It is well-known that the largest part of the cost of manufacture of sugar consists of the cost of the raw material. The real well-being of the industry depends, therefore, on the supply of good cane at a cheap cost. The present yield of cane crop per acre is only 15 tons in India as compared to 55 tons in Java. The latest figures (1939) of the import of Java sugar into India should cause anxiety. The increase of the imports may be a temporary affair in view of the shorter crushing season in the two years 1937-39 but it, nevertheless, indicates a menace against which India should be well-advised to be fore-armed.

**The Indian Sugar Industry*, 1938 Annual, edited by M. P. Gandhi p. ix (preface).

A word may now be said about the paper industry. The study of the Titaghur Paper Mills, the Bengal Paper Mill and the Indian Paper Mill has led Dr. Lokanathan to conclude that from the point of view of economical working a two-machine mill is able to carry on at least as well as a four-machine mill. That a one-machine mill is smaller than the optimum mill is proved by the lack of success of such mills. "Of the nine mills in existence in 1924-25, five had only one machine each. Since that period two mills have increased their equipment to two machines. Of the other three mills having one machine each, two were in Bombay, of which one had to close down and the other was sold and acquired by another paper mill. The third mill has not been working for some year past. Thus the career of the single-machine mills has been unfortunate."*

In the above account only a number of specific industries have been considered. The list is certainly not exhaustive but enough has been said to indicate that in the future planning of Indian industries the question of size, that is, of the optimum unit will have to be very carefully considered in order to avoid, on the one hand, the evils of the undersized or under-capitalized industries and on the other hand, the evils of over-sized or over-capitalized industries.

§ 3

OUTPUT.

Having considered the question of the optimum size of an industrial unit the next question that may be considered is that of the output that is to be aimed at. The existing purchasing power of the people is limited by the size of the national income, and its distribution to a population of near about 400 millions constitutes a vast potential market for any kind of industrial goods. The present purchasing power of this vast mass of population sets very severe limits to the productivity of industries in the existing circumstances. Even a slight increase in the purchasing power of the population amounts to the creation of a very substantial margin for the expansion of Indian industries. It will be a fundamental aim of the National Economic Plan to increase the purchasing power of the

*Lokanathan : *Industrial Organization in India* (1935), p. 125.

masses. Till it is achieved we shall have to assume a basic output and add to it a certain percentage of normal expansion on account of the improvement of purchasing power. In any event, it would be safe to work on the existing consumption of industrial products in the country. This includes not only the production of the Indian industries but also the commodities that are imported. The output may be further checked by independent calculations, wherever possible, of the normal consumption standard in regard to each of the industrial commodities.

The nature of these calculations may be illustrated with reference to the cotton textile industry. The following table gives the figures of the consumption of cotton piecegoods (apart from the hand-loom production) during the quinquennium 1932-33 to 1936-37.

TABLE

(In Millions of Yards.)

	1932-33	1933-34	1934-35	1935-36	1936-37
Net Imports	1200	770	970	970	790
Mill Production	3110	2890	3340	3500	3470
Total ...	4310	3660	4310	4470	4260

Average for 5 years ending 1936-37—4200

Average imports for 5 years ending 1936-37—940

The above figures include Burma as the figures exclusive of Burma are not available till 1937-38. Provided we can enter into a satisfactory trade agreement with Burma whereby the existing Burma market can be preserved for the Indian mill production, there is no reason why we should not be able to work on the India-Burma basis of production and consumption. We have seen that the average consumption of piecegoods (imports as well as Indian mill production) during the quinquennium was 4,200 million yards. Actually this figure is an under-estimate of the normal requirements of India. If we take the average of the three pre-depression years 1926-27 to 1928-29, we arrive at the figure of 5170 million yards which can be taken as the normal requirement of India for piecegoods, apart from handloom production. For the time being we make no allowance for the increase of population that has taken place since that year. The total loomage of India is 200,000. The total capacity of these looms working full time (without night-shifts)

is about 4,450 million yards.* In other words, there is a deficit of about 600 million yards for which additional loomage of about 25,000 will be necessary. The corresponding number of spindles on the Ahmedabad average of 43 spindles to one loom would be 1,075,000 spindles.†

On the basis of 30,000 spindles and 700 looms for each mill, there is thus still scope for at least 36 mills of the optimum size to be started in the country in order completely to displace the foreign imports.

The above calculation is subject to the following conditions. The normal standard has been assumed to be that of the average for the three years 1926-27 to 1928-29. Future planning must, however, take account of the normal increase of population. Assuming the normal increase to be 1 per cent per year the total cloth requirements of India may be assumed to be at least 6,000 million yards by the end of 1950 or 1,000 million yards more than the output assumed. Therefore additional mills would be required for the production of the additional 1,000 million yards of cotton goods for India. This means that additional loomage of 45,000 would be necessary for producing this extra quantity of piecegoods. In other words, about 64 additional mills would still be necessary to erect in the country. Therefore the total requirement of India for making the country fully self-sufficient in the matter of cotton piece-goods by the year 1950 would not be met by the erection of 36 mills only, but 36 *plus* 64 or 100 new mills.

Another defect of the above calculation is that no distinction has been made between the different categories of piece-goods to be produced by the Indian mills. Nor has any note been taken of the quality of production to be aimed at. Again, the indirect

*In order that these looms may be worked to their full capacity it is of course essential that the existing mills should be rationalised. In other words, those mills that are at present uneconomical having regard to the optimum size or due to any other reasons must be converted into mills able to work on an economical basis. This could be done by (1) rationalization, by promoting amalgamations, writing down capital, transference of looms and other technical equipment, (2) a better regional distribution of the industry, (3) promoting the growth of long-staple cotton and (4) a suitable measure of protection.

†The Ahmedabad ratio is taken not because the Ahmedabad mills are the most efficient but because in Ahmedabad nearly all the spindles are utilized for the production of yarn for consumption within the factory whilst in Bombay some portion is used for sale both in India and abroad. See Lokanathan, *op cit*, p. 93.

competition offered by the cheap substitutes for certain kinds of piece-goods must also be allowed for. All these are factors which the planning authority must take into consideration in distributing the hundred additional mills to be set up amongst the different categories of cotton goods, and to take steps so that the necessary quantity of raw materials may be obtainable in the country itself. The cost of raw materials, so far as the textile industry is concerned, is very important because it constitutes about 50 per cent of the total cost. Thus the Indian mills have at present to depend largely on the import of foreign cotton and foreign yarn for the production of the higher counts of yarn and the finer kinds of fabrics. Recent efforts to produce long staple cotton have been very encouraging. It is evident that if India is to be made self-sufficient in the matter of the supply of cotton goods of every description, the efforts to produce long staple cotton must be redoubled.

There is another difficulty which the planning authority will have to face. This is the problem of establishing harmonious balance between the handloom production and mill production. In the calculations that have been made above, that part of the consumption which is at present supplied by handloom products has not been taken into consideration ; that is, that part of the Indian market has been, left undisturbed. With the increased diversification of industries a considerable proportion of the surplus population at present depending upon agriculture will be drawn into the industries. In other words, one important economic reason for promoting the handloom industry will sooner or later largely disappear. The time must come when the question of utilizing the idle months of the agriculturist by offering him subsidiary occupations will not be so urgent as it is now. From the strict point of view of productive efficiency, the handloom industry should have no future excepting to the extent that an agricultural family might produce in their spare moments cloths for their own use. In the re-constructed economic society which the Economic Plan envisages, this kind of activity will not form any appreciable part of the industrial system. In the fulness of time, therefore, there will be still further scope for the Indian mill production to increase so as to supply the market at present fed by the handloom products.

In the preceding paragraphs the case of only one industry has

been studied. The industry is of course the most typical industry in India presenting all the major problems with which the question of the development of an industry is concerned. It will be for the planning authority to determine the scope of development of each specific industry having regard to the present circumstances as well as the circumstances of the future. Only a rough sketch of the many factors that will go into the determination of the possibilities of an industry has been given above. Each industry of course has its own separate problems. But what has been said above will give a general idea of the way in which the problems of an industry may be discussed and determined with reference to the Industrial Plan.

§ 4

RAW MATERIALS.

If industries are to develop on a competitive basis the problem of an adequate supply of raw materials at cheap cost must have to be solved. The raw materials may be agricultural or may be industrial. On the one hand, there are certain industries, for example, the cotton mill industry, which depend upon a plentiful supply of agricultural raw-materials of the required quality ; on the other hand there are industries like the iron and steel industry which require a plentiful supply of the requisite minerals or ores. While most of the industries in India which depend on the produce of agriculture are well supplied in the matter of raw materials, the same thing cannot be said of the industries which have to depend on an adequate supply of first class minerals. The question of Power as well as that of capital equipment have also to be considered.

So far as agricultural produce is concerned, we find that about 75 per cent of our total exports consists of raw materials. Thus, with regard to cotton, while the Indian mills consumed on an average of about 370,000 tons of Indian raw cotton a year during the quinquennium 1932-33 to 1936-37, the country exported during the same period an average quantity of 572,000 tons of cotton annually to other countries. Again, during the same period, India imported foreign cotton to the extent of 66,000 tons on an average per year. In other words, India is not fully utilizing her own raw cotton

supplies for industrial purposes. It cannot be said that the whole of the raw cotton which is exported out of the country represents a surplus after meeting the requirements of India. That it is not really a surplus is shown by the fact that this cotton is again re-exported to India in the shape of finished goods. The imports of cotton manufactures during the quinquennium 1932-33 to 1936-1937 averaged 935,000,000 yards and the average value of the imports was a little over Rs. 16 crores.

Similarly, in the case of jute, it is a well-known fact that the Indian mills consume on an average half of the total yield of the jute, the balance less any surplus stock carried by the mills being exported. There is no reason why the whole of the raw jute at present exported should not be fabricated in India. In other words there is no reason why Indian mills with the raw material practically at their door should not only be able to supply the domestic market but capture the whole of the over-seas markets. According to the minority report of the Jute Enquiry Committee the Indian loomage accounts for only 57 per cent of the total number of jute looms in the world. The growth of jute manufacturing in the different countries of the world has been accompanied by a fall in the exports of Indian jute manufacturers.* The manufactures of the Indian mills are confined mostly to coarser fabrics used for packing purposes. There is also no variegated production, the mills being equipped showing little almost wholly for the production of the coarser varieties, enterprise in extending production to different varieties of jute goods.

In this way if we analyse the state of most of our industries with respect to raw materials available in the country, it will be found that these industries at present consume only a part of the total production of raw materials. The cotton textile and the jute mill

*While it is true that the reduced activity of the Indian jute mills has been partly due to the depression, a considerable part of it must undoubtedly have been due to the expansion of the production of certain other countries. Analysing the state of the industry during this period, Mr. J. N. Sen Gupta observes as follows :—"It will be noted that while the activity of the jute industry has been continuing at a low ebb in those countries where it has started on a considerable scale, for example, in India, U. K. and Germany, its activity has markedly increased in those countries where the industry has been started later and on a much smaller scale, particularly in the continental countries of middle Europe and also in Japan." See his *Economics of Jute* (1935), p. 96. Incidentally, it throws some light on the optimum size of the industry.

industry no doubt provide typical examples of the insufficient industrial use of India's raw materials. In some cases practically the whole of the raw material has to be exported out of the country for want of an industry in the country itself. These raw materials are manufactured by the countries to which they are exported and are then imported back so that India loses doubly on the deal. This is a well-known fact and it is not necessary to burden this section with any detailed facts.

As regards mineral production India is in a somewhat different position. It has been pointed out by more than one authoritative writer that India's supply of minerals is not at all adequate to the great size and requirements of the country. With the exclusion of Burma, the position of India has become almost one of insignificance as a producer of minerals. According to the figures of 1936, there are only 15 items in which the value of India's production exceeded £100,000. Of these the following are the most important, namely, coal (£4,699,128), petroleum (£4,651,993), gold (£2,300,933), lead-ore (£1,269,262), manganese ore (£1,124,422), building materials (£815,580), tin ore (£780,689), salt (£747,071), mica (£689,963), silver (£519,188), copper ore and matte (£452,119), tungsten ore (£307,624), zinc concentrates (£303,356), iron ore (£302,040), nickel speiss (£111,489), and saltpetre (£86,273). Of these, several important minerals are produced in Burma. Thus, the major part of petroleum, the whole of lead and lead-ore, tin, tungsten, zinc concentrates and nickel speiss, and the greater portion of silver and a substantial portion of copper ore and matte are obtained from Burma. In fact, the separation of Burma has reduced the value of Indian minerals which was assessed at £19,427,719 in 1936 by about 50 per cent. There has been some improvement in recent years. Formerly the ores used to be mostly exported in their natural condition. Of late efforts are being made for smelting and treating the ores. It is unnecessary to emphasize that as far as possible the treating of the ores should be completed in this country and the finished metal should be available for indigenous consumption for which they are now imported.

In the case of some of the individual items in the list India is no doubt very well-supplied. Thus, as a producer of coal she stands second to the United Kingdom in the British Commonwealth of

Nations and ninth in the world. Most of the coal obtained, however, is second class and India requires to find out supplies of first class coal for meeting the full requirements of Indian industries. As in the case of coal, India is also the second largest producer of iron ore in the British Empire and ninth in the world. Her output is no doubt very much exceeded by the production in the United States and France but it is estimated that her reserves of ore should be nearabout at least three-quarters of the estimated total in the United States. Again, of manganese ore of which a little over 813,000 tons were mined in 1936, the steel works of India used only a little over 46,000 tons and nearly 743,000 tons were exported to to different countries. There should be great possibilities for the use of manganese ore when it is realized that the two principal sources of the world's manganese are India and Russia. Further, India is also overwhelmingly the world's cheapest producer of high grade mica which is an indispensable accessory in electrical manufactures. At present, however, most of the mica is exported to the United States and the United Kingdom.

These figures give us an idea of the fact that though on the whole India's mineral production may fall short of the total requirements of Indian industries, as matters stand, even the present production is not utilized fully. It should be the duty of the planning authority to find adequate industrial use for the minerals which India at present exports. It should also be the duty of the authority to find out by intensive prospecting the yet untapped resources of India in the shape of minerals. It is believed that the Gondwana ridge, the hilly tracts of Deccan, the hills of Assam and the sub-Himalayan tracts contain large variety of mineral deposits, and that exhaustive prospecting works can divulge enormous hidden wealth. There is no doubt that transport difficulties exist in these areas at present, but there is also no doubt that once the deposits have been discovered, transport facilities would not be difficult to provide, as the recent transport developments in the Central Provinces and southern Gondwana have proved.

What is required is that the planning authority should undertake along with a survey of Indian industries an exhaustive survey of India's raw materials as well as of mineral production. The two surveys should go hand in hand. The one is a complement of the

other. Without an adequate supply of raw materials, industries will not be able to establish themselves on a fairly competitive basis. Without industrial development, the export of raw materials involves a double loss to the country. As the matter should be considered to be one of immediate necessity, the survey of India's raw materials and minerals should form one of the first tasks of the planning authority.

§ 5

FREIGHT

The question of freight on raw materials as well as on the transport of the finished product to different parts of the country should receive the earnest attention of the planning authority. In not a few cases industries have to make a choice between the availability of cheap fuel or power and that of raw materials in determining their location. Thus, with regard to paper mills, their future is largely bound up with the use of bamboo pulp on account of the excessive cost of *sabai* grass.* Unfortunately the raw material areas are situated remote from the areas where cheap power is available. If the industry wanted to save the heavy freight on raw materials, it would lose the advantage of cheap power. Further, the railway freight on paper is so heavy that the paper mills have to satisfy more or less local markets and unless the whole country is fed by a judicious distribution of paper mills there will be a long time before India will be able to dispense with foreign paper. Again in the case of cement, it is well known that the cost of power and coal constitutes about 40 per cent of the total cost, often a great deal more. It is also well-known that the cement industry, as it is, is well-equipped for the supply of the entire present requirements of the country. But the actual result has been that most of the cement factories have to be located far away from the principal markets in order to be near the sources of power and the cost of transport forms a heavy item in the marketing of cement. A further difficulty is that the question of freight becomes often a point of conflict.

*When *sabai* grass was the chief raw material, the industry was drawn to a location which was near the source of power and market. Thus, the Titaghur and Bengal Paper Mills which used *sabai* grass located themselves near the market and near the coal areas. They had to get their raw material from a distance of some 900 miles because they found that it was more economical to pay freight on 2½ tons of grass rather than pay freight on 5 tons of coal for nearly the same distance and on the finished product.

Evidence of such conflict is furnished by the sugar manufacturers in the north and those in the south in their respective attitudes towards railway freight on sugar.* Another illustration can be given of the want of co-ordination between the rates policy of the railways and the requirements of the industries. In November, 1937, a rebate of 20 per cent on the freight charges was announced on consignments of cotton booked from certain stations in the Punjab to Cawnpore. The reason for this reduction was to bring back the railway traffic that had been diverted to the road and to prevent any further diversion. In the following year the Committee of the Indian Chamber of Commerce (Calcutta) in their interview with the Chief Commissioner and the Financial Commissioner of Railways referred to this rebate and pointed out that cotton mills in Bengal were placed at a considerable disadvantage even in the Bengal markets as compared with the mills at Cawnpore on account of this concession. They urged the granting of a similar rebate in the case of cotton booked to stations in Bengal in the interests not only of the cotton mill industry of the province but the railways themselves and the cotton growers in the Punjab. It may be noted that the question of the reduction of freight on cotton was also urged by the East India Cotton Association as well as several other commercial associations like the Indian Merchants' Chamber of Bombay but the Government opposed the proposal on the ground that they did not consider it a proper policy to alter the freight rates from time to time to meet trade fluctuations. It is also stated that the policy urged by the commerce chambers would mean that in a period of falling prices which also generally coincided with a period of trade depression resulting in a falling off in the volume of traffic, the railways would be sacrificing revenue when they could least afford to do so. They also found that the proposed reduction in railway freight on cotton would involve a loss of approximately Rs. 15 crores which the Government were not prepared to risk.

*While the manufacturer in the United Provinces has been able successfully to press for a reduction in freight from Rs. 2-8-0 to Rs. 1-4-0 a maund from Cawnpore to Madras, the manufacturers in Madras, Bombay and Punjab have been pressing for an increase in freight with a view to getting advantage of proximity to their natural markets. Madras consumes 100,000 tons of sugar per annum, of which less than one tenth is produced within the province. It is almost certain that within the next few years the sugar industry would develop rapidly in Madras, with the result that the factories that have grown in such haste in the United Provinces and Bihar might be adversely affected." Lokanathan, *op. cit.*, p. 74.

We can add other examples to show that a certain co-ordination of railway rates and industrial activity is necessary in the national interest. To put it in short, an authority is required in India for the purpose of regulating and co-ordinating the movement of passenger and freight throughout the country and the agencies and the facilities by which the transfer is accomplished. The scope of such an authority should be wider than that of a Railway Rates Tribunal and its purpose should be to secure the national interest in the spheres of transport, particularly with regard to inter-provincial and inter-industrial interests. Such an authority may be a connecting link between the National Board of Industries and the Board of Transport, for its functions would affect or be concerned with both. A comprehensive transport and rates authority is proposed on the ground not only of the possibility of discrimination in rates as between one provincial interest and another but also as between one category of carriers as against another.

§ 6

REGIONAL DISTRIBUTION OF INDUSTRIES.

A good deal of ill-feeling has recently been generated on account of the unco-ordinated development of industries throughout India. A few illustrations may be given. Thus, with regard to the cotton textile industry, it is well-known that Bengal was once the home of India's textile industries. She has, however, lost her prime place since western methods came to be adopted in industrial production. Thus, of the 370 cotton mills on the 31st August, 1937, as many as 150 were located in Bombay and Ahmedabad. There are only 25 mills in Bengal as against 69 mills in Bombay and 81 in Ahmedabad. There has recently been some improvement in Bengal because in 1931 Bengal had only 11 cotton mills. This, however, does not mean that Bengal is unfavourably situated with regard to cotton mills. Calcutta is favourably situated both in respect of power and market, and Bengal is one of the best markets for cotton goods. One reason, as Dr. Lokanathan suggests, why the cotton industry did not develop in Bengal was perhaps the concentration of the jute industry. Bombay's progress in the cotton industry may again be attributable to the system of industrial finance that she had early adopted. Bengal is not also unfavourably situated with regard to raw material, and even if she had to obtain

her raw materials from other provinces she would not be at any special disadvantage on the ground of freight because of her advantages in other directions. Similarly, there is a great scope for the development of Madras as an important centre of the cotton industry. On the other hand, doubts have been expressed about the future of the cotton industry in Bombay. On account of the high cost of labour compared to its efficiency, the breakdown of the managing agency system, the higher cost of electricity compared to coal and a high level of provincial and local taxation, Bombay is faced with peculiar difficulties which may eventually seal her doom as the leader of the cotton textile industry in India.

Again, taking the case of the sugar industry, here again we find too much concentration of the industry in the two provinces of India, namely, the United Provinces and Bihar. Of the total number of 136 sugar mills in India (excluding Burma) as many as 101 mills are established in the United Provinces and Bihar while there are only 8 mills in Madras and 6 in Bengal. Yet Madras and Bengal are not as unfavourably situated in respect of the sugar industry as the figures would suggest. The Indian Sugar Committee of 1920 remarked that "there can be no question that there is no part of India, except possibly the Deccan canal tracts of Bombay, in which cane can be grown with greater profit than in Madras." It has also been pointed out that one important advantage from the point of view of a big factory industry is that in the southern regions cane can be planted and grown so as to be harvested in different parts of the year, so as to prolong the period of milling well over a hundred days which is the working season in north India. It may, therefore, be justly suggested that with the extension of irrigation facilities in south India there is bound to be a very great scope for the development of the sugar industry in that part of India. Madras consumes 100,000 tons of sugar per annum of which only less than one-tenth is produced within the province. She has thus an assured market for her production. So far as the development of the sugar industry in Bengal is concerned it is well known that Bengal provides a very important consuming centre for which reason the establishment of sugar mills in that province should be considered to have a good future. Certain difficulties, however, have been urged against the possibility of developing the sugar industry in this pro-

vince. She shares with Madras the difficulty of securing compact blocks of land large enough for the purpose of a sugar factory with its own sugar-cane supplies. This defect can, however, be met by suitable modification of land acquisition laws. The Indian Industrial Commission have emphasized the need of applying the Land Acquisition Act to all industries and suggested certain restrictions which the local government should observe in declaring purposes of public utility for the purpose of land acquisition. The position of a sugar factory in relation to this raw material is peculiar from this point, namely, that sugar-cane is the largest factor in the manufacture of sugar and that land or soil is only one necessary factor of the production of cane. For the establishment of sugar factories on an economic basis it is essential to ensure the regular supply of an adequate quantity of sugar-cane for the factory and for that purpose to acquire compact blocks of land for the cultivation of sugar-cane. The shape of Government assistance in this respect can be illustrated from the action of the Government of Bombay which actually acquired lands on the Provara Canal in the Deccan and leased the same to the Belapur Sugar Syndicate for the cultivation of cane. In fact, as an experienced writer has observed, "this factory represents the most ideal factory in India today showing the highest working efficiency both in acreage yield of cane and recovery of commercial sugar."* In Bengal, the writer points out, there are vast land areas where jute cannot be grown but where sugar-cane can be cultivated quite well, if only the facility of large compact blocks of land be secured through Government assistance or otherwise. Another difficulty that is urged in the way of starting sugar factories in Bengal is the low recovery content of Bengal's sugar-cane. Actually, it is stated, the low recovery of sugar in Bengal is due to the inefficiency of cane-farming and of the difficulty of quick transportation together with inefficiency in milling and manufacture. The real difficulty in Bengal is that most of the sugar factories operating are small units and of an uneconomical type. That there are real possibilities of sugar manufacture in Bengal, inspite of these alleged handicaps, is shown by the fact that

*See article on "Should Bengal Go In For More Sugar Mills" by Mr. R. R. Chowdhury in the *Financial Times*, April, 1939. The same issue of the journal bears an interesting controversy on the subject between Mr. Chowdhury who has put in a plea for the decentralization of the sugar industry and Mr. S. C. Roy who opposed it and supported the policy of restricting the further growth of the industry.

Messrs. Soorajmull Nagarmull have taken over about 8000 bighas of land for their mills at Gopalpur in the district of Rajshahi and Setabganj in the district of Dinajpur and that Messrs. Anderson Wright & Co., and Carew & Co., have secured extensive areas of land for cultivation of cane to feed their factories at Ramnugger and Darsana respectively. On the other hand, the mills that are under Bengali management are stated to be of an uneconomic size and besides, do not command sufficient working capital so as to finance the farming of cane by themselves or the cultivators. Canes crushed by these mills are reported often to remain in wagons in transit for 2 to 4 days, before they are available at the cane carrier and thus the canes hopelessly deteriorate by both dryage and inversion. This, in fact, is stated to be the real story of the Bengal cane being of poor quality. There can indeed be no doubt that if the sugar factories are adequately planned in the Province, there is a great future for it. The subject is worthy of serious investigation.

A word may also be said about the iron and steel industry. Since the finding of the last Tariff Board, iron and steel works have been started in Bengal which in course of time may challenge the supremacy of the Tata Works. A good deal of India's natural resources such as iron ore, coal and coke still remain to be exploited and there is also a vast internal market, both existing and potential, for iron and steel products. It has been estimated that the railways, mines, engineering industries and the like consume at present a little over 1,000,000 tons a year and that in no distant future the volume of this consumption may be doubled. It is quite likely that Bombay may also prove a venue for the iron and steel industry. It has been possible in the United States for the iron and steel industry to develop at points distant alike from ore and from coal. The iron and steel industry in the Chicago district, for instance, is distant from the raw material sources but has excellent transport relations with the same and has a large local market in the agricultural machinery industry. Similarly, the heavy British steel industries have been moving to the sea coast or the lower reaches of deep rivers for they obtain easily imported ore and enjoy advantage in exporting the goods. On the other hand, the Sheffield steel industry has developed in spite of costly transport relations on account of the skill of its labourers.

These few facts will, it is hoped, be sufficient to support the

conclusion that a good deal can be done by the planning authority in the way of securing a proper distribution of industries throughout India. This suggestion is not to be taken as a concession to what is called provincial feelings. On the contrary it is an economic requirement inherent in any system of planning.

§ 7

POWER RESOURCES.

The subject of power resources will be discussed in Chapter XXI. The two most important sources of power are coal and water. So far as coal is concerned, the Indian Coal Mining Committee (1937) has estimated that at the present rate of production and with the present methods of extraction the reserves of good quality coal will last 122 years and of coking coal 62 years. At the same time the Committee found that the reserves of inferior coal are practically unlimited and that with changed market conditions these could be largely substituted for superior coals. It is undoubtedly true that the present methods of extraction are wasteful and that if these wasteful methods are substituted by more scientific mining, the existing reserves of good quality coal in India might be made to last a long time. On the other hand, with greater industrialization, there would be larger demands for coal, thereby reducing the present reserves at a faster rate. As the Coal Mining Committee observed, "the coal trade in India has been rather like a race in which profit has always come in first, with safety of power second, sound methods 'also ran' and national welfare 'a dead horse', entered perhaps, but never likely to start." This indicates the necessity of the national planning of our power resources and of the way in which they are to be exploited. In any case, the life predicted even for good class coal by the Committee is fairly long and we need not be over-anxious just at present for the depletion of our coal resources. After all we have not yet exhausted the possibilities of science and human enterprise.

So far as the question of water power is concerned, it can be very cheap under certain circumstances. The question of hydro-electric power has been receiving a great deal of attention during recent years and important schemes of generating electricity from water and serving large areas with cheap power have recently been put through in several provinces. The development of hydro-electric

power is intimately connected with the cost of coal. As the *Preliminary Report on the Water Power Resources of India* (1919) calculated, "With coal under Rs. 10 per ton it is doubtful if water power could ever compete unless it existed right on the spot and could be developed exceptionally cheap. On the other hand, with coal at Rs. 30 a ton, water power would generally prove cheaper and for a well sustained industrial load invariably." Again, Sir William Stampe, formerly Chief Engineer, U.P. Irrigation Department, laid down as his opinion that "the economic advantage in generation usually lies with the hydro-station provided the bulk of the load can be located within 150 to 200 miles of the sources of the power. Any increase in this distance, specially in an easterly direction or towards the coal-fields, gives a countervailing advantage in favour of local steam stations interlinked with hydro-network."* At present the estimates of the total water power resources of India must be conjectural. A survey made in 1921 by the Hydro-Electric Survey Department estimated the total water power resources of India at 5'58 million kilowatts or 7'44 million electrical horse-power.† Though at present calculations, the total quantity of hydro-electric power available is certainly large, its cheapness is not always so obvious. The adoption of the grid system, however, has changed the character of the problem. A province cannot have an effective power system by means of local generation in its various towns,—for locally generated currents in small towns must necessarily be more expensive than energy derived from a widespread grid system with an economically sited power station. Sir William Stampe pointed out that such factors as the diversity of load obtainable from a connected urban system, and improved load factor on the central station and the relatively lower cost per kilowatt installed on the central station, constitute the economic justification for the grid system as opposed to a series of individual stations. He particularly indicated the importance of cheap hydro-electric power to a province like the Central Provinces. This province has important mineral areas already widely developed but capable of further exploitation if a cheaper source of power can be made available either in the coal-fields to the north or in the Vindya Hills or by a well-planned combination of the two.

*See his address to the Members of the Central Irrigation Board on "Inter-Provincial Power Development in India" on November 5, 1937.

†Triennial Report, Hydro-Electric Survey of India, 1919-21.

Suitable sources of power, he emphasized, are certainly available. This province like the rest of India has latent means of utilization in cottage industries on Japanese lines, provided of course that cheap power is forthcoming. Similarly, the United Provinces and Bihar also stand to gain by hydro-electric development and the Provincial Ministries of these two provinces have already initiated a big policy of development. In Bengal, the generation of power is considered to present somewhat different problems. The recently established Industrial Survey Committee, according to a Press report, have been credited with the opinion that the possibilities of the development of hydro-electric power was out of the question for most parts of the province so that the real problem in Bengal was the establishment of thermal power stations for the generation and supply of electrical energy preferably through a grid system.* Similarly, the province of Assam presents certain difficulties which are almost prohibitive in their nature. A Note submitted by Sir W. Allsup, Electrical Adviser and Chief Electrical Inspector, Assam, on the possibilities of hydro-electric development in the province points out that though, apart from the slopes of the Garo-Khasi-Jaintia Massif, the possibilities of generating hydro-electric power in the province are obvious, "unfortunately, our industries at present are so scattered and so largely seasonal that any power scheme loaded with high capital and maintenance charges could not hope to be a paying concern for many years, and then only if, in fact, the availability of cheap supply enabled actual considerable industrial development to take place."

These facts will for the present be sufficient to show that in India there is necessity for undertaking a very careful estimate of the power resources of the country and their suitability for the different parts of the country. This emphasizes an aspect of planning

*The first electrical power plant in India was set to work in 1896 at Darjeeling. It was, however, a very small concern, its maximum power being 400 horse-power, voltage 2330 volts and transmission station 2 miles only. It was a municipal enterprise. It is maintained by many that Bengal has a first class hydro-electric proposition in the Teesta river a little to the north-east of Siliguri. If it has been found possible to utilize heads of 10 to 20 feet only—instead of the standard practice of utilizing heads of hundreds of thousands of feet—for the generation of electrical energy in the United Provinces, the possibilities of hydro-electric development in Bengal cannot be lightly brushed aside. The cost of coal, present as well as future, will of course be a determinant factor.

the importance of which should not be ignored so far as the question of industrial development is concerned. It is only necessary to suggest that the whole subject should be very carefully studied by an Expert Commission, because it only remains to be pointed out that the future development of industries would be largely influenced by the availability of electrical energy at cheap rates. It is particularly true of small and medium-sized industries which cannot afford the cost of setting up their own power plants. Since electricity must necessarily enjoy a composite demand, the possibility of starting with a large initial load is by no means a fanciful one, for electricity will be required not only for the existing industries but for the industries of the future, for railways, for agriculture and for village reconstruction, not to speak of the increasing demands from domestic consumers.

§ 8

LABOUR.

The question of industrial labour will be treated in detail in Chapter XII. Manufacturing enterprise cannot succeed without a regular supply of well-trained labour. It is a truism to say that the efficiency of labour depends as much on the labourer himself as on the employer. To a great extent the so-called inefficiency of the Indian labour is due to the inefficiency of the employer. Again, the inefficiency of the employer is often the result of defects in the organization of the industry itself. Where capital is inadequate and technical skill not always available, the workers cannot be employed to the best advantage even if there is the will. Most of the Indian industries are carried on either on a medium scale or in small establishments. Almost universally they are under-financed. There is also a singular lack of experienced entrepreneurs. The technical organization of a factory is often in the hands of inexperienced persons. The result is that there is want of suitable division of labour with the consequent loss of efficiency. On account of the smallness of the size of the average establishment, highly specialized technical skill neither finds any scope nor any attraction in the facilities that such a firm can offer.

There is of course no doubt that the Indian labourer, even apart from directional defects, is far less efficient than his brethren in the industrially advanced countries. What is suggested is that

this efficiency is often exaggerated. The Indian labourer is, within the limits of the climate, singularly hard-working, honest and, if we might add, efficient. The magic wand of a Tata has converted the half savage aboriginals of Sakchi into the highly efficient trained workers of Jamshedpur. Similarly, a visit to Batanagar in Bengal will convince the sceptic of the high efficiency that Indian labour can develop under proper supervision. The deficiencies of the Indian labourer will be discussed in the Chapter on the Problem of Industrial Labour. It is only necessary to point out that there is nothing to be sceptical about so far as the efficiency of labour is concerned.

The real difficulty, if I may put it in this way, is about the philosophy of life of the average Indian worker or potential worker. The Indian labourer has all the virtues and shares all the limitations of the Indian. He has a simple way of life and little ambition. That is a merit only up to a point after which it begins to impede progress. He is home-loving which, again, while imparting an element of stability to the social system, becomes an obstacle to industrial development, in that it makes the supply of labour a difficult problem. His fatalistic outlook which has been generated by the character of Indian agriculture inhibits the spirit of enterprise which is so essential for industrial advancement. The surroundings of the village in the midst of which he has been nurtured have not disposed him favourably towards the discipline which is demanded of an industrial worker in a highly mechanized factory. Hence the large proportion of absenteeism in the Indian factories and the periodical shortage of labour. All these, however, are remediable defects. Once it is realized that India stands badly in need of industrialization, the philosophy of action will have to be ruthlessly preached. The shame of carrying a large element of non-working dependants as a permanent feature of the Indian population-composition must, in other words, be eradicated. This surplus population will have to be transferred to where work can be found for them. The industrial development of India will provide them with the work which they need. It should, therefore, be a definite part of the Plan to provide for the control of labour supply to different industries. The planning authority must take steps for the training of labour and must insist that there is no adult in the village who has not been trained in

some vocation. The potential worker must be brought into contact with the potential industrialist. There must be a widespread system of industrial training either in the existing factories or in factories under the control of the Government or in special institutions to be set up specifically for the purpose of imparting such training. The scheme of training must of course be related to the industrial requirements of the country, for it would be a waste to provide for training which could have no application to the circumstances of this country. Secondly, the whole scheme of training should be regulated on an all-India basis. For, the Plan contemplates the transfer of population not only from one part of the province to another part of the same province but also from one province to another province. Moreover, different provinces will naturally offer opportunities for different kinds of industrial training. Hence the necessity of co-ordinating and to some extent centralizing the facilities for industrial training. The planning authority will have to devote its attention to this aspect of the problem.

§ 9

ORGANIZATION.

We now come to the organization of the authority for directing the Plan. It has already been indicated that there should be a National Board of Industries. This Board should have its provincial counterparts. The National Board as well as the Provincial Boards should work in collaboration with the Bureau of Survey, Statistics and Research. The cognate organizations will include the following: (1) An Industrial Location Committee to determine the location and distribution of industries in the country, (2) A National Power Commission, (3) a Commission for the Control of Raw Materials, (4) a Labour Control Board with an Industrial Council such as has been recommended by the Royal Commission on Indian Labour and a network of Labour Exchanges and (5) a Small Industries and Handicrafts Board to which all problems affecting the small and cottage industries should be referred by the National Board before decisions are taken on them. It is needless to add that these Boards and Committees should be organized at the Centre as well as in the provinces.

The National Board of Industries should preferably have the

following personnel: An experienced Economist as Chairman; the provincial Ministers of Industry and Commerce; the Presidents of the recognized Chambers of Commerce and other trade organizations; one representative of labour; one representative of employers; one statistician; two representatives of the National Economic Council; Presidents of the Provincial Boards of Industries; one member with engineering qualifications; two scientists preferably with technological qualifications; two representatives of the Indian Universities to be nominated by the President of the National Economic Council; two representatives of agriculturists and two members with special knowledge of handicrafts, to be nominated by the respective interests.

The provincial Boards should have the following personnel: The Provincial Minister of Industry as Chairman; the Presidents of the provincial Chambers of Commerce; two members representing labour; two members representing employers; the head of the Department of Economics of the provincial University or where there are more than one University, the heads of the respective Departments; two scientists, preferably with technological qualifications; the Minister of Finance and Labour; the Electrical Adviser to the provincial Government; two representatives of agricultural interests and two members with special knowledge of provincial handicrafts.

The National as well as the Provincial Boards shall have, as one of their important tasks, that of striking a balance between agricultural and industrial activities on the one hand and between different forms of industry on the other. It is in order to secure this co-ordination that members representing agricultural interests and members having special knowledge of local handicrafts have been proposed for both the National as well as the provincial Boards. It is, however, suggested that in all important matters affecting agriculture, the Industries Board should always consult the Board of Agriculture and no plan should be implemented unless there is agreement between the two. Similarly it is contemplated that whenever any proposal which is likely to affect the small industries is to be considered such proposals must usually be referred to the appropriate Committee.

Before concluding, a digression may be made for the purpose of

making a reference to the interesting report published recently by the Political and Economic Planning Group in England on the question of the location of industry. Reference has already been made to the observations by Professor Allen on the question of the localization of British industries.* Professor Allen pointed out that when new concerns are launched on a great scale, "a long view is surely necessary in determining their localization, and some form of public control is certainly required". It is interesting to observe that the P. E. P. group has also been struck by the necessity of planning the location of British industries. The report falls into two parts. In the first place it calls for methods of research and publicity by some central body which will open the eyes of the industrialist, State departments and public corporations to the "locational" consequences of the policies they intend. Secondly it calls for the extension of the powers of financial inducement at present possessed by the Commissioners for the Special Areas for their defined districts alone, to the whole country—at least *in posse*. It also provides for a sanction : every proposal to establish or extend a factory will have to come before the Industrial Development Commission proposed to carry out the task of research, publicity, advice and encouragement and their licensing. The sanction of licensing will have two strictly limited purposes : to pass in continuous review the whole process of industrial extension, movement and transfer; and to provide a sort of State policeman to curb the activities of the "economic pirates" whose readiness to sacrifice communal income to obtain greater individual material income can no longer be tolerated.† The report of the P. E. P. group also envisages the establishment of a National Planning Commission to put on a wider basis, existing town planning powers and aiming at the orderly arrangement of the whole country, keeping in view the interests of industry, agriculture and amenity. Similarly, the Scottish Economic Committee in its report entitled "Scotland's Industrial Future" which was issued in February last (1939) suggested that a new form of planning authority should be established with its scope extended to Scotland as a whole with the primary duty of formulating the national plans for the future layout and development of the country. The Committee added that such a

*See Chapter XVII, § 3.

†See *The Economist* (London) March 11, 1939, pp. 489-490.

body should be established by statute and its functions should be essentially of an advisory character though they thought that its powers and limitations could only satisfactorily be determined after the Royal Commission on the Geographical Distribution of the Industrial Population had issued its report. The Committee also proposed, like the P. E. P. group, that there should be a branch of the planning authority to deal with the question of the location of industry which should combine within itself the functions of the Commissioners for the Special Areas concerned, with the establishment of new industries and the power of the Special Areas' Reconstruction Association to make financial advances in the case of new or struggling industries which have reasonable prospects, but which are unable to obtain accommodation through its normal financial channels.*

It will thus be seen that the proposals that have been made in this chapter are in no way inconsistent with what an influential group in England and Scotland have been thinking about the problem. The question of finance has not been discussed in this chapter because it is such an important topic that it has been reserved for special treatment in a subsequent chapter.

*See *The Economist* (London) March 18, 1939, p. 565.

CHAPTER XIX

HEAVY AND KEY INDUSTRIES

§ 1

IMPORTANCE OF HEAVY INDUSTRIES.

It has been pointed out in Chapter XVII that India requires to develop three kinds of industries, namely, those industries whether of the large, medium or small type for which the country has got adequate resources in men, money and natural wealth; those industries that are known as heavy and key industries; and lastly those industries that have a military or strategic value. In the preceding chapter, organized industries belonging generally to the first category have been discussed. In this chapter the case of the heavy and key industries will be dealt with.

By heavy industries are usually meant the industries dealing with the production of minerals, transport industries, power industries, chemical industries and metallurgical and machine production. No country can ever expect to be a first-rate power politically as well as economically that ignores the case of the heavy industries. What would be the Russian Plan, for instance, if its authors had not staked so much on the development of the heavy industries? The summary table given below dealing with the industrial development of the U. S. S. R. in terms of the Five-Year Plan (1928-32) will bear testimony to the reality of the Russian effort. Of course it would be foolish to make any comparison between the scale and extent of the Russian effort and the possible scale on which Indian efforts in this direction might in the present circumstances be organized. What Russia could do under the inspiration of national leadership and with all the resources of her vast natural wealth and man power mobilized under a unified command, India will have to travel a long way to achieve. The table that is given below is only illustrative of the

importance that ought to be allowed to the development of heavy industries in a scheme of national planning. India also has rich, though by no means inexhaustible, resources which can be the basis of the establishment of a number of heavy industries necessary for her full industrial development.

TABLE
The Industrial Development of the U. S. S. R (a)

	Unit	1928	1932
Electrification :			
Generating capacity	<i>Kw. (000's).</i>	1,874	4,567
Production of electricity	<i>Kw. hours (000,000's).</i>	5,003	13,100
Industry :			
Gross production of census industries	<i>Millard roubles at 1926-27 prices.</i>		
Total		15.7	34.3
Producers' goods :	"	7.0	18.0
Consumers' goods :	"	8.7	16.3
Production :			
Coal and lignite :	<i>Tons (000,000's).</i>	35.8	63.0
Raw oil :	"	12.3	21.4
Pig-iron :	"	3.3	6.2
Steel :	"	4.2	5.9
Machines	} <i>{ Roubles (000,000's) at 1926-27 prices.</i>	1,122	890
Agricultural Machinery :			
Motor-cars :	<i>Number (000's).</i>	0.9	...
Tractors :	"	1.4	...
Transport :			
Railway freight traffic :	<i>Tons (000,000's).</i>	88.1	188.8
Monetary Conditions :			
Money in circulation :	<i>Roubles (000,000's).</i>	2,028	6,183

(a) League of Nations *Statistical Year-Book*, 1932-33.

Industry means wealth and wealth means power. Russia today may be hated by some but she is not pitied by any one. On the contrary, Britain which once enjoyed a unique position because of her leadership in industry has now lost both her leadership and her position to other countries. Even if India's ambitions are not pitched as high as those of Russia or the United States as a matter of immediate policy, it is evident that her industrial equipment will be fundamentally deficient without proper attention being paid to her heavy and key industries.

§ 2

MINERAL AND METAL INDUSTRIES.

The national planning of our industries without proper

attention being paid to the necessity of conserving our existing metal and mineral resources will soon find itself in deep waters. It is not possible to attempt a detailed study of the mineral deposits of India in this section. A rough outline has already been given in the preceding chapter. Of the key industries in this respect, the pride of place must be given to the coal and the iron and steel industries.

COAL

The finding of the Coal Mining Committee (1937) to the effect that the reserves of coal of good quality to be found in this country can last for a period of about 62 years only has already been referred to. The Committee estimated the reserves of good quality coking coal at the end of 1936 at a total of 1,426,000,000 tons, the life of which at the present rate of production of 11·5 million tons a year and on average ultimate extraction of 50 per cent works out at 62 years. With a higher percentage of recovery, the duration would be affected *pro tanto*. In a speech at the annual dinner of the Mining and Metallurgical Institute of India held on the 13th, January, 1939, Mr. J. J. Ghandy, General Manager, Tata Iron and Steel Co., Ltd., suggested a co-ordinated sequence of working the coal seams in order to eliminate not only stowing needs to a great extent but also loss in top seams and urged that further research should be carried out to discover the possibility of blending rich coking coal with inferior coals and also of the reduction of ash in high ash seams by liquid flotation in order to bring reserves of inferior coals in competition with the so-called first grade coals. The vital importance of coal arises from the fact that it is not only essential to the well-being of the iron and steel industry but also to the progress of industrialization in general. In provinces like Bengal and Bihar its special importance lies in the fact that it is likely to be the basis for the generation of thermal electricity to meet the requirements of their industries for cheap and effective supply of power. The following table taken from the *Memoirs of the Geological Survey of India* (Vol. LIX) and the *Indian Coal Statistics* of 1935 reproduced in the report of the Coal Mining Committee (1937) will prove of interest as indicating the consumption of coal.

TABLE

<i>Consumers.</i>	<i>Estimated consumption in 1935. Tons.</i>	<i>Percentage of Total.</i>
Railways	... 7,293,000	31.9
Admiralty and Royal Indian Marine	... 29,000	0.1
Bunker Coal	... 1,020,000	4.5
Cotton Mills	... 1,531,000	6.7
Jute Mills	... 653,000	2.9
Iron Industry (including engineering workshops)	... 5,583,000	24.4
Port Trusts	... 135,000	0.6
Inland Steamers	... 551,000	2.4
Brick Kilns, Potteries. Cement Works etc.	... 792,000	3.5
Tea Gardens	... 186,000	0.8
Paper Mills	... 171,000	0.7
Collieries and wastage	... 1,220,000	5.3
Other forms of industrial and domestic consumption	... 3,712,000	16.2
<i>Total</i>	<i>... 22,876,000</i>	<i>100.0</i>

In 1922, the total estimated consumption was little over 20 million tons so that apart from the fact that the existing resources of coal should be conserved in the interest of this country until suitable substitutes are found, there is for the time being no particular reason for anxiety so far as the immediate requirements of the country for her industrial development are concerned. Moreover, a good deal of coal is now lost through waste which should be avoidable. The Mining Committee distinguished the following kinds of waste: (i) waste due to mining methods which are bad under all circumstances, e.g., too high percentage of extraction under first-working and enlarging galleries or reducing pillars too much in advance of systematic depillaring, (ii) waste due to mining methods which have been more or less forced on the trade and industry by economic conditions, e.g., section-working involving the sacrifice of coal of commercial or industrial value, (iii) waste due to circumstances over which the mining community has little or no control, e.g., coal lost as support under railways or other surface features, in excessive barriers due to crooked boundaries or small leaseholds or geological disturbances such as faults, and because the terms in some leases encourage excessive extraction in first-working, or hinder agreements regarding depillaring, way-leave and boundary adjustments

for which big premiums or transfer fees are demanded. Much of this waste is avoidable and the national interest must be kept above trade, commercial or private interests. One point to be noted in this connection is, that since the Coal Committee of 1920 reported, the average percentage of recovery had declined from 66·6 to 50 by the time that the Committee of 1927 reported. It may be noticed also that according to the United States of America Coal Commission (1921), that country produced 368 million tons of bituminous coal out of 564 million tons *in situ*, which means that even if India industrialized herself on the scale of America she would still have about half of her present reserves in tact, even assuming a recovery of 65 per cent.*

I take the opportunity here to refer also to the observations of a Bengali scientist, Mr. B. C. Roy of the University College of Science, Calcutta, on the waste of our coal resources. He finds that out of the total of about 19 million tons raised in Bengal and Bihar, as much as 13·5 million tons are used in such a way as to cause an annual loss to the valued country at several crores of rupees and at the same time prevent the growth of many important subsidiary industries. If, as he says, this 13·5 million tons of coal could be subjected to low temperature carbonization before sending it out to the market, we would be able to stop this annual loss, the extent of which will be apparent from the following table :

TABLE

13·5 million tons of coal subjected to low temperature carbonization at 500°-550°C would yield :

<i>Product</i>	<i>Amount</i>	<i>Value</i>
Coal Gas with an average calorific value of 750 B. T. U. per c. ft.	47·25 billion c. ft. (at 3500 c. ft. per ton of coal) for generation of electric power	
Ammonium Sulphate	60,000 tons	Rs. 57 lakhs @ Rs. 95 per ton
Light Oil, suitable for internal combustion engines	27 million gallons	Rs. 67·5 lakhs @ -/4/- per gallon
Phenols	6·75 million gallons	Rs. 15 lakhs approx.
Heavy Oil for lubricating purposes	33·75 million gallons	Rs. 80 lakhs @ -/4/- per gallon

*About the optimum size of the coal industry, see Chapter XVIII, § 2.

In addition to this, Mr. Roy points out, we get soft coke amounting to 11·5 million tons which may be used for domestic as well as for industrial purposes. Experiments carried out in the Calcutta University Laboratories also showed that by a proper blending of caking and non-caking coals before being subjected to low temperature carbonization, we can obtain soft cokes of quite good quality, so that by this means we can utilize the non-caking coals which are now practically wasted. The most important use of non-caking coal is for making producer gas for which it is most suitable. The percentage of volatile matter in non-caking coals is generally very high and the gas obtained from a producer plant with this class of coal is rich in coal gas and has therefore a higher calorific value than that obtained from caking coals with low volatile matter. About the method of burning coal in stacks, Mr. Roy reminds that it not only involves the loss of valuable by-products but the price of coke becomes higher as the amount of coke obtained is only about 80-85 per cent of the coal burnt. On the other hand, the recovery of the by-products would enable coke to be sold at a much cheaper price in addition to the supply of cheap power to the whole country which would give a new impetus to the growth of small industries and particularly lead to the development of one of the most important industries which our country so badly requires, viz., the manufacture of dyestuffs and pharmaceuticals.

An industry which is intimately connected with coal with high volatile content is the hydrogenation of coal into oil. Raneegunj coal contains a volatile content of 29 to 38 per cent and with suitable methods of carbonization it may be possible to establish a coal-oil industry for the country. It does not seem to me that the deposit of "brown coal" or sub-bituminous coal has been properly surveyed in the country. The Tertiary tracts are said to contain only a few hundred thousand tons of coal which would be inadequate for the full development of the coal-oil industry. The recent efforts of Germany and Great Britain suggest the great possibilities of this industry. In Germany, a company has been formed under the control of the Government with the object of producing petrol and lubricants by the hydrogenation of brown coal, for which purpose the Minister of Economy has been authorised to link the producers of brown coal (sometimes wrongly described as lignite) into a cartel

for the purpose of financing the Company. In Germany it has been found possible to extract from 100,000 tons of lignite tar which is produced from between 1 to 1.5 million tons of coal according to quality, 38,000 tons of motor spirit, 10,000 tons of Diesel oil, 8,000 tons of fuel oil and 2,000 tons of lubricating oil. Similarly, she has succeeded in producing oil out of coal by high pressure hydrogenation as distinct from low temperature carbonization plant. In Great Britain, also, experiments are being made in the way of hydrogenation of black coal which has not yet been exploited to any great extent. The Imperial Chemical Industries are already in the field with a hydrogenation plant at Billingham-on-Tees with a capacity of 150,000 tons erected for the time being on an experimental basis. The cost of the plant amounted to £6,000,000. The industry received an important stimulus by the fact that the increase of the tax on heavy oil used for road transport from 1d. to 8d. per gallon in August, 1935 was not made applicable to heavy oil derived from British coal. The hydrogenation plant is producing motor spirit at the rate of 100 million gallons per annum, while in 1934 the total output of 52 million gallons only had been obtained from coal. Again, in Belgium, the National Committee for Scientific Research recently charged a sub-committee of experts with the problem of discovering whether Belgium could cover a part of her oil requirements by coal liquefaction. Japan, too, which for military reasons is seriously endeavouring to enlarge her oil resources has just started an investigation of the rich Manchurian and Korean coal-fields for oil production. France after preliminary but successful technical experiments has just started a company for the production of oil from coal in Northern France. Thus, practically every country which is deficient in the domestic supply of oil has been making earnest efforts for the production of oil from coal. In India, the consumption of motor spirit (petrol, benzine, benzol etc.,) and lubricating oils is not considerable but there is undeniably a large scope for the increase of consumption. In 1932-33, the local refineries produced petrol to the extent of only 68 million gallons which increased to 72.6 million gallons in 1933-34. During the latter year India imported 18,166,000 gallons of lubricating oils and 1,606,000 gallons of motor spirit. During the same year the imports of fuel oil reached the peak figure of 104,837,000 gallons while the imports of kerosene amounted to 58,147,000 gallons. The

figures exclude the coast line imports of kerosene from Burma into India proper which amounted to 110 million gallons in 1933-34. All these figures suggest the necessity of an investigation into the possibility of India producing her own mineral oils including fuel oil and motor spirit. The development of transport has immense potentialities in a country of the size of India and the supply of cheap oil will be a potent factor in assisting such development.

IRON AND STEEL

The next great industry after coal that may be regarded as the most important of the key industries of the world is the iron and steel industry. The history of the iron and steel industry in India is barely a quarter of a century old. Its origin and development has been due to the pioneering enterprise of the late J. N. Tata of hallowed memory. It is recorded that after getting a prospecting licence in 1900 and leaving the actual work of prospecting to his agents, Tata went over to Germany and the United States of America only to find that apart from the capital sum that would be necessary for the starting of the industry, a huge investment would have to be made in preliminary investigations and in a thorough and scientific survey of local conditions, raw materials, markets, etc. Then followed the years of investigation and prospecting. The preliminary cost alone amounted to £30,000 which would have been completely wasted if the great Tata industry failed to reach the point of actual flotation. Actually the company was not started till after the death of its real founder. Not the least of the difficulties was that of capital. After an abortive attempt to float the company with the aid of British capital, the Tata Iron and Steel Co., was finally started with Indian capital. It was the discovery of the rich ores in the lofty Gurumaishini Hill and the expert assistance rendered by the late P. N. Bose of the Geological Survey of India that finally led to the maturity of the project. Here was a case where the pioneering initiative and enterprise of a single individual ably assisted by a few experts led to the establishment of one of the greatest industries of India, in fact, of the world. There were no paraphernalia of tariff investigations to be gone through, no necessity for appointing ponderous committees or of interminable confabulations that lead nowhere, and yet the work perhaps of a century was

accomplished by the foresight and enterprise of a single individual spread over a few years of the country's history. It was indeed a tribute paid to the genius of the late J. N. Tata when the last Tariff Board on the steel industry found that India had room for at least another great iron and steel manufacturing concern and the starting of the Hirapur Works with which were recently incorporated the Kulti Works only carried forward the vision that J. N. Tata had seen about 40 years ago.

In assessing the possibilities of the Iron and Steel industry in India we have before us not only the observations of the Tariff Board but the following figures of our export and import trade which are significant. The total production of pig iron has increased from 872,547 tons in 1924 to 1,540,000 tons in 1936. The whole of the production however, has never been fully utilized within the country. A considerable part of this production had to be exported to other countries as the following table will show.

TABLE
Production and exports of pig iron (in tons) from India.

(1) Year	(2) Total Production	(3) Exports	(4) Percentage of (3) to (2)
1924	872,547	271,055	30.4
1925	880,075	401,794	45.6
1926	902,433	315,162	34.9
1927	1,140,051	383,960	33.7
1928	1,051,884	428,625	42.6
1929	1,391,551	548,881	39.5
1930	1,175,292	502,629	42.8
1931	1,058,336	318,994	30.1
1932	913,314	248,396	27.2
1933	1,057,837	372,015	27.9
1934	1,320,210	398,054	30.1
1935	1,451,862	472,636	32.6
1936	1,540,000	473,000	...

As against these figures it may be noted that India imports a large variety of iron and steel goods consisting of cutlery and hardware machinery and mill work, railway plant and rolling stock, iron bars, iron and steel beams, pillars, sheets, etc., still bars, angles, channels, blooms, billets. Though the value of the imports has diminished in recent years compared to 1924, the value is still sufficiently high to suggest the possibilities of not one but many more iron and steel producing concerns. In 1924, India imported iron and steel goods worth over Rs. 50 crores which included about Rs. 9 crores worth

of railway plant and rolling stock. In 1935, exclusive of railway plant and rolling stock, the imports were valued at Rs. 23,46 lakhs. According to Dr. C. S. Fox of the Geological Survey of India, India has many rich deposits of iron ore still untapped. It has been estimated that her reserves of ore would be near about at least three quarters of the estimated total in the United States. Thus, it is estimated that the reserves of haematite in the Maurbhanj-Bonai-Keonjhar-Singhbhum area amount to more than 3,000 million tons of high grade ore (60-68 per cent *Fe*) and about an equal quantity of lower grade ore (45-60 per cent *Fe*). Similarly, Baster in the Central Provinces is also reported to contain several million tons of haematite. In Bengal, iron stone is found in the Raneegunj coal-fields area and laterite in Rajmahal. It is stated that the laterite deposits in Rajmahal are quite large. Though the exact quantity is not known, it is believed that the former industry of Birbhum was based on this ore.* It may, therefore, be confidently expected that proper prospecting of the deposits of the various forms of iron ore in India would lead to quite satisfactory results. The development of a well-established iron and steel industry is also calculated to lead to the establishment of various kinds of subsidiary industries provided of course the demand exists for the products of such subsidiary industries. It is to be recalled that the plate section of the Tata company had to be closed down for want of adequate demand. It is stated that as long as India is not able to establish a ship building industry, no iron plate industry will have any chance of success. So far as the iron and steel manufacturing concerns are concerned, a conservative estimate would suggest on the basis of a consumption of 2 million tons a year the establishment of at least two more concerns of the same size and capacity as the Tata's, that is, with a maximum output of about 600,000 tons.

OTHER MINERALS

Turning now to other metals and minerals, it has already been pointed out that the mineral deposits of India are not very large and that with the separation of Burma, India's resources have been reduced by about half. That, of course, by itself is not immediately a very serious affair because India can avail of Burma's resources for her

*See table XI to the *Report of the Indian Coal Mining Committee* (1937), p. 233.

own industry. Besides these resources for which India will have to depend on Burma she herself has valuable mineral deposits. Thus, with the development of the iron and steel industry, the manganese ore at present exported out of the country will be available for domestic use. The two principal sources of the world's manganese are India and Russia, and of over 813,000 tons mined in 1936, nearly 743,000 tons were exported to different countries. Again, India is also overwhelmingly the world's cheap producer of high grade mica, producing about 90 per cent of the value of the total commercial sheet mica produced in the world. With regard to both manganese and mica, however, India has got to be very careful. The total deposits of manganese are known to be not very considerable in this country, while it is the view of experts that the proportion of the commercial sheet mica which is India's speciality, is limited. At present the Industry is almost wholly dependent on foreign demand. There is no reason why it should not be available for the use of the local industries if the industries are carefully planned. On account of the negligence of the Government and the trade organizations, India has not been able to realise the fullest benefits of her strategic position in regard to mica. That is evident from the fact that the export price realised by India for her mica has declined by more than 70 per cent in comparison to the war period although the foreign demand for mica has advanced by more than 100 per cent during the same period.* Much of this weakness of India is stated to be due to internal competition, rate cutting and uneconomical methods of mining. Obviously these defects should admit of early correction.

These figures are given with a view to suggest the necessity of a proper survey of India's mineral wealth with a view to its utilization in the great task of India's industrial development. The existence of these minerals should be related to the imports of manufactured goods into India which utilize such minerals in the process of their manufacture. It is a task in which the geologist, the mining engineer, the chemist, the economist and the industrialist ought to be able to co-operate with each other to the mutual advantage of all and to the benefit of the country.

**Cf.* the Hon'ble Mr. Nalini Ranjan Sarker's speech at the annual dinner of the Mining, Geological and Metallurgical Institute of India held on January 13, 1939.

§ 3

TRANSPORT INDUSTRIES.

SHIPPING

The Indian shipping industry—which is at present a misnomer—may be regarded as a key industry in every sense of the term. We are here concerned more with the ship-building industry than with the economics of the shipping industry. That India offers large possibilities for the growth of the ship-building industry cannot be questioned. For a period of twenty centuries, as Professor Radhakumud Mookerjee has pointed out in his book on the *History of Indian Shipping and Maritime Activity*, the Indian shipping and ship-building industry had enjoyed a glorious record until it was ruined by foreign competition. “There can hardly be conceived,” writes Dr. Mookerjee, “a more serious obstacle in the path of her industrial development than this almost complete extinction of her shipping and ship-building.” Modern ships, however, are a vastly costly proposition and the type of ships that plied the Indian ocean when the modern ship-building industry had not grown up would be worthless today. Therefore, if India wants to compete with the foreign shipping concerns, she will have to compete on their own terms. Provided the necessary finance is forthcoming, this should not be a difficult job for her. She has a coastline of over 4000 miles in length and a considerable trade at the ports. Her ports are sufficient in number and adequate in size and with a little official help their number can certainly be added to. There are many incipient or small ports which are neglected either because the big shipping companies have no interest in them or because their development might injure the interests of the railways. Hence, very frequently, destruction goes on where dredgers might save a port. Very few of the rivers of the country are at present navigable up to any considerable point into the interior, partly on account of Government negligence in the past or because of the predatory way in which railways were built in the country. In fact, India's trade, her coastline and her industrial future mark her out to be a great maritime power, and if the Government were only conscious of her responsibilities in the matter of developing an Indian mercantile marine to the same extent as other countries have done, the question of the growth of India as the pre-

dominant maritime power of the East would be only a question of time.

The following paragraph taken from the Preamble to the American Merchant Marine Act of 1920 sums up in a small compass the utility of the mercantile marine to a nation:

"That it is necessary for the national defence and for the proper growth of its foreign trade and domestic commerce that the United States shall have a merchant marine of the best equipped and the most suitable types of vessels sufficient to carry the greater portion of its commerce and serving as a naval or military auxiliary in time of war or national emergency, ultimately to be owned and operated privately by citizens of the United States, and it is hereby declared to be the policy of the United States to do whatever may be necessary to develop and encourage the maintenance of such a merchant marine."

How one would wish the same view were taken by the Government of India in order to organize and establish a mercantile marine worthy of India. Not only in the United States but also in other countries, the national Government has consistently been taking a leading part in the establishment of the national shipping industry. The assistance that the British ship-building industry has received from their Government as well as from the Government of India, either of a direct nature or through mail or passenger contract is too well-known to receive any detailed treatment. The British shipping industry is at present aided by direct appropriations for Naval Reserves, Admiralty subventions, government loans at low rates of interest, mail subventions, colonial subventions and Indian subventions. Thus, the Cunard Steamship Company have frequently been favoured with loans by the British Government at nominal rates of interest for the purpose of building ships. The interest of the Government in making the loans has been that the ships built with the money, though primarily used for trade purposes, could provide in case of need auxiliary cruisers of a fast and serviceable character. The appropriations for the Naval Reserves, are meant for the pay, allowances and contingent expenses of officials and seamen serving on marine and fishing vessels as annual retainers, drill money and lodging allowances to men in the Royal Fleet Reserves and capitulation allowances to the Royal Naval Volunteers. Though these appropriations are intended chiefly to enable the Admiralty to draw from a suitable supply of seamen its crews for men-of-war, the

monetary value of the assistance given to the merchant marine should not be ignored.

As regards the other countries, the following typical examples will prove of interest:—

U. S. A.

(1) Reservation of her huge coastal traffic to ships flying the national flag.

(2) The exemption of all materials of foreign origin intended for the construction of vessels in the United States from customs duty, such vessels, however, being forbidden to engage in the coastal trade reserved to American-owned vessels for more than six months in each year.

(3) Coastal subventions to specified lines operating on specified routes in the foreign trade.

(4) The appointment of the United States Shipping Board under the Merchant Marine Act of 1920 invested with large powers "with the object of promoting, encouraging and developing ports and transportation facilities in connection with water commerce over which it has jurisdiction" and with the authority to set apart \$ 25,000,000 annually for a period of five years to encourage ship-building in the United States and by other means.

FRANCE

(1) Equipment Bounties on the basis of tonnage which also provided for (a) Construction Bounties and (b) Navigation Bounties.

(2) Fishing Bounties for encouraging deep-sea fisheries.

(3) Mail Subventions including the re-imbursement by the French Government under the mail contract of the Suez Canal dues.

(4) Preferential Railway Rates—which are allowed on freight intended to be shipped by the vessels of the companies receiving the preference.

JAPAN

(1) Construction Bounties with additional aid where the subsidized vessels are equipped with Japanese engines.

(2) Navigation Bounties which are formally allowed to all ships owned by the Japanese subjects operating under the Japanese flag between Japan and foreign ports but later on the system of specially encouraging a few companies was substituted for that of general payment made to all without any differentiation. These subsidized vessels operate under Government control, being required to carry the mails and placed under the supervision of the Minister of the Communications who supervised their rates and fares.

(3) Reservation of Coastal Trading.

These examples will be sufficient to show the great interest that the different governments take in the promotion of the shipping industry flying the national flag.*

Turning now to the case of India it stands to reason that this great country with her enormous resources in iron, steel and other building materials should be able to develop her own shipping industry with adequate State assistance. Mr. Haji calculated in 1921-22 that the total freight paid by India on the import and export trade of the country amounted to about 54·5 crores of rupees including Rs. 12 crores which was earned on the coastal trade of the country. If to this we add a rough estimate of passenger fare at the rate of Rs. 1,000 per passenger, we get another Rs. 2·4 crores. Adding the two the total gross earnings of the mercantile marine engaged in Indian trade come up to a little over Rs. 57 crores annually. This huge drain of wealth from India is not the whole of the story.† The way that the freights are determined has often been a subject-matter of complaint. It was openly complained, for instance, by Lala Harkishen Lal in course of his evidence before the Indian Fiscal Commission that the foreign steamship companies give preferential treatment to foreign exporting houses as against Indians engaged in that line with the result that it was impossible for India to take part in a very profitable branch of business. Similarly, in the matter of port service there is good deal of discrimination or disadvantage from

*For a more detailed information on this subject, see S. N. Haji: *Economics of Shipping* (1924), Chapter X.

†Out of the total shipping earnings estimated at Rs. 57 crores per annum the monetary drain from India amounts to Rs. 50 crores, being Rs. 9 crores in coastal traffic, Rs. 38 crores in sea-borne traffic and Rs. 3 crores in passenger business.

which Indian concerns are made to suffer. Further, the fact that the shipping is in foreign hands is also responsible for the fact that an important avenue of employment for educated and enterprising Indians is closed to them. Finally, it is well-known that the profits of ships contribute in a large measure to the stability of the exchange.

Mr. Haji estimated in 1924 that about 50 lakhs tons of cargo are annually carried by ships along the coast of India and that India's share in this huge traffic amounted only to about 13 per cent. In view of the fact that almost all modern countries have reserved their coastal traffic to national shipping*, the following estimate which was submitted by the Scindia Steam Navigation Co., Ltd., to the Indian Mercantile Marine Committee on the total cost of *new* Indian-owned vessels necessary to reserve the passenger and cargo trade along the coast of India to vessels of the Indian mercantile marine will be read with interest.

To handle 50 lakhs of tons of cargo would require an annual employment of a deadweight tonnage amounting to about 60 lakhs. Taking an average steamer to be of 6,000 tons, this means the employment of 1000 steamers. Thus:

	Rs.	As.	P.
12 Passenger steamers for traffic in the Bay of Bengal at an average price of Rs. 15 lakhs each	... 1,80,00,000	0	0
3 Passenger steamers between Karachi and Bombay at Rs. 15 lakhs each	... 45,00,000	0	0
20 Passenger steamers, in addition to ferry boats, for the Karachi-Bombay Konkan coast run (various sizes)	... 1,00,00,000	0	0
River passenger services	... 1,00,00,000	0	0
100 Cargo steamers of a average size of 7,500 tons d. w. at Rs. 11,25,000 each	... 11,25,00,000	0	0
Barges, Launches, tenders, tungs, tackle in various small ports	... 1,00,00,000	0	0
Total Rs.	16,50,00,000,	0	0

It will be seen that the total capital outlay, required for the complete Indianisation of the coastal traffic of India is only Rs. 16,50,00,000, i.e., approximately one tenth of the amount of Rs. 150

*A recent League of Nations enquiry revealed that 27 out of 33 maritime countries have reserved their coastal trade to national shipping.

crores recently provided for by the Government of India for the development of Indian Railways. Besides, even this cost will be substantially reduced if cargo tonnage not more than five years old were purchased to meet the coastal requirements of India.* This applies only to coastal traffic, both passenger and freight. If the building of these ships is spread over a period of five years, the cost to be incurred each year will certainly come within a figure not absolutely beyond the capacity of India to bear.

As regards ocean-going traffic, Mr. Haji estimates that judging only from the figures of the 5 major ports of Karachi, Bombay, Madras, Calcutta and Rangoon, the traffic amounts to about 120 lakhs of tons per year, only 2 per cent of the ships engaged in this trade being on the Indian Register. Here also there is a great scope for Indian participation in the business provided that the Government of India also follow the example of the other governments and organize a sufficient and adequate system of bounties and other forms of State help. This would no doubt involve a very widespread system of control and regulation. There is, for instance, questions of freights, of deferred rebates, of possible rate-war, of suitable marine insurance† and so on; all these will have to be effectively regulated in the interest of India before any active policy of encouraging the shipping industry may prove successful. It should be one of the most important tasks of the planning authority to take up this question and initiate a suitable scheme of building up India's national shipping industry.

THE AUTOMOBILE INDUSTRY

The question of starting an automobile industry in India has received a great deal of attention in the Congress scheme of industrial planning Sir M. Visvesvaraya has taken a leading part in pushing forward the scheme of automobile manufacture in India.

*Haji: *Economics of Shipping*, 1924, p. 374.

†The European insurance companies working in India appear to follow a policy which practically operates against Indian interests. Ships with Lloyds 100 A1 certificates and regarded, irrespective of Indian ownership, as first-class risks by the experts of London are graded second-class by the insurance agency in India solely on the ground of their Indian ownership thus indicating an antagonistic spirit which would never be tolerated in any self-governing country. To prove this point Mr. Haji quotes the following classifications of steamers by Marine Insurance Agents at Karachi:—

FIRST CLASS :—All those not classed "Second" or "Third."

SECOND CLASS :—All Indian owned and/or managed and/or chartered steamers other than those specially classified as third class.

It is his opinion that India offers great possibilities for the manufacture of automobiles. The manufacture of automobiles is supported on the further ground that it is necessary in the national interest because the manufacture of motor is not only by itself a key industry but is of the greatest importance in a scheme of national defence. If it is possible to manufacture motor, it would not only be so much easier to manufacture automobiles but also to manufacture steamships, aeroplanes and the electrical plant for the heavy industries. The manufacture of motor, thus, has an economic as well as a strategic value and for this reason the expenditure that may be incurred on the manufacture of motor should not be regarded purely as a business investment.

It is, however, claimed that the manufacture of motor-cars is an economic proposition in India. India, of course, is still very far from the American standard where there is a motor-car for every five persons. In other words, the whole population of the United States can be carried in her motor-cars alone. India is a poor country, but even as she is, there is a considerable field awaiting her in the sphere of the manufacture of automobiles. As the industrialization of the country proceeds, India will require to strengthen her resources in commercial transport and to extend the use of motor ploughs and tractors in the fields and trucks to carry the produce. It is, therefore, not an exaggeration to say that having regard to the vast size of the country there is no limit to the possibilities of the use of motor vehicles for private as well as commercial purposes. The revenue duty on the import of motor-cars is already so high that if an industry is started in the country itself it will act as a protective wall. If together with this a drawback of the revenue duty were allowed on the materials required for the manufacture of automobiles which cannot be made in India there should be every reason to expect a rapid development of this industry. It is true that India may have to import the requisite technical skill from other countries but where such skill is not locally available there is no harm in securing the services of foreign experts provided that these experts are not given any predominant position in the industry or allowed to acquire any vested interests in it, and are required to train up a number of Indians as a part of the contract.

The total number of motor vehicles in actual use in India cannot be stated exactly. Two facts, however, can be mentioned without any possibility of error. One is that the number of such vehicles is very small compared to the total population and needs of India. Secondly, there has been a remarkable increase in the imports of these vehicles since 1913-14. In that year the total number of motor-cars imported into India was 2880 whereas in 1937-38 the figure was 15,697. The peak had however been reached in the years just preceding the depression. In 1928-29 the total imports of motor-cars numbered 19,567 and in the following year 17,399. In 1937-38 the total number of omnibuses, vans and lorries imported amounted to 15,077 of which about 90 per cent were chassis. The total number of motor vehicles registered in British India up to 31st March, 1934, was 202,960, of which 141,415 were motor-cars and taxi-cabs, 40,427 were heavy motor vehicles and 21,118 were motor cycles including scooters and auto-wheels. These figures show that there is one motor vehicle for 1721 persons, if we take the motor-cars only (including taxi-cabs), then there is only one motor-car for 2475 persons—as against one motor-car for five persons in the United States. This indicates the potential market that exists in the country.*

In this connection it may be interesting to refer to a recent controversy between Mr. D. E. Gough, the Indian representative in Bombay of the General Motor Traders and Manufacturers Ltd., of London and Sir M. Visvesvaraya. In a statement issued in Bombay in January, 1939, Mr. Gough expressed the view that it was better for India to buy motor-cars than build them. He quoted from a report of the Australian Tariff Board which, he said, had expressed itself against the idea of manufacturing motor-cars in Australia and declared that most of the conditions which induced the Australian Tariff Board to form this opinion were equally applicable to India. Sir M. Visvesvaraya in his reply to Mr. Gough reminded him of the reception given to the report of the Tariff Board by the Government and the public of Australia. The Australian Government rejected the report of the Board and Mr. White, Minister of Customs,

*In recent years, there seems actually to have been a deterioration. The latest issue (1938) of the *Review of the Trade of India* calculates the number of all classes of motor vehicles running in the different provinces of British India on the 31st March, 1938, as 146,429 of which motor-cars including taxi-cabs numbered 97,872.

declared in the House of Representatives in October, 1938 that "The Government adheres to the policy of encouraging the establishment of an industry for the manufacture of engines and chassis in Australia. The Government invites prospective manufacturers of engines and chassis, or parts thereof, to submit their proposals, with details of the assistance required not later than March 31, 1939. Consideration will be given to any proposal for complete manufacture." The Australian Press also supported the Government's decision and pointed out that "a fixed and stable tariff policy will in the end attract to these shores what may be described as the greatest of modern industries."* Sir M. Visvesvaraya adds that as a manufacturing country India is said to rank eighth in the world, and that some twenty countries are already manufacturing motor vehicles, so that there could be no reason why India also should not be able to go ahead with the manufacture of automobiles not only for meeting the vast, though to a great extent potential, needs of the country but also as an aid to her national development. Even now India ought to be able to replace at least half of the motor-cars now imported, that is, to the extent of, say, 10,000 motor-cars annually.†

AEROPLANES

The manufacture of aeroplanes is a highly technical industry and India may require some time before she is able to start and

**Australian Manufacturer, October 8, 1938.*

†Along with the establishment and development of the automobile industry, India will offer a great scope for rubber manufacture. At present about 125,000 acres are given to rubber cultivation in South India chiefly in Travancore. The establishment of the Dunlop factory at Sahaganj in India three years ago shows that while foreign capital has found it advantageous to seize the opportunities offered by the Indian market, Indian capital and enterprise, as usual, have lagged behind. Rubber has use not only in the manufacture of tyres and tubes but in the manufacture of footwear and other industrial rubber products. Two significant facts must be mentioned in this connection. One is that though the production of rubber was subjected to international restriction and though the other rubber producing countries have still to depend upon the regulated produce, Indian plantations and factories are in a very much advantageous position on account of the fact that the consumption of rubber within the country has been more than doubled in recent years. Secondly, while the price of tyres has increased in almost all countries, in India, since the establishment of the Dunlop factory at Sahaganj, the prices of tyres have been reduced by about 25 per cent. A reduction in the prices of tyres means cheap transport and hence it is of assistance to the national economy of the country in a double sense. It is interesting to note that the Dunlop factory is also manufacturing the rubber parts of army pattern respirators or gas masks and therefore its importance is on that account not to be missed. At present over 2 crores of rupees worth of rubber goods are annually imported into India.

organize a factory for manufacturing aeroplanes. In the answer to a question put by Mr. Lalchand Navalrai in the Central Assembly on the 17th August, 1938, Mr. A. G. Clow, Member for Communications, Government of India, stated that a general investigation of the possible use of Indian components in air-craft construction was not likely to be of value because, although some of the raw materials from which manufactured articles were made were found and produced in India, very complicated processing was required for practically all the materials used in air-craft construction which could not at present be carried out in India. He added that even so far as the basic materials were concerned the enquiry into the suitability of the Indian timber for the purpose of air-craft construction and repairs which were in progress had not given promising results so far. He, however, pointed out that though no aeroplanes had been constructed in the country a small number of aeroplanes had been assembled and re-built in India from imported manufactured parts. No Indian materials, he repeated, had been used because the processing of raw materials was not carried out in India and no material could be used in the construction of aeroplanes unless it complied with the approved specifications. Finally he expressed the opinion that self-sufficiency, irrespective of cost, was not an ideal to be aimed at.

As against this depressing picture about the possibilities of manufacturing air-craft in India we can compare the efforts that have been made by the De Havilland Aircraft Co., Ltd., of South Africa. This company which has the record of a pioneer in South African civil aviation and has been to a large extent responsible for the spread of the light plane club movement has already sold about 200 machines in South and East Africa. 75 per cent of its shares are held by South African investors. Within the next few months a new air-craft factory will be established in the Union. The company aims at building efficient machines, for instance, the *Moth Minor*, at a low cost to suit the increasing demands of civil aviation. But *Moth Minor* is but a low-wing monoplane of simple design, equipped with 90 h.p. engine with a cruising speed of 105 to 115 miles per hour for the open and closed types respectively. The factory will make a comparatively small beginning. The construction policy has already been decided on and this

involves the gradual advance from assemblage work in the first stages to the manufacture of parts in South Africa. It will eventually use South African steel tyre and tubes and every possible South African product will be used by the new company. This company has not only been approved by the Director of Civil Aviation of the country but its future is also very bright in that it is felt by many that the introduction of economical light planes may serve to revolutionize popular transport. The service engineer of the company has just returned from England where he has spent four months studying methods of production. In view of these facts Mr. Clow ought to explain why what has been possible in South Africa should not be possible in India, and why should the present impracticability of the processing of parts stand in the way. That India has been growing rapidly air-minded could no longer be ignored. The development of internal regular services in the country provides an index to the possibilities of India undertaking her own aircraft manufacture in the near future. The growth of these services will be apparent from the following figures. In 1933, the total distance flown came up to 153,000 miles, the number of passengers carried 155 and the weight of mails $10\frac{1}{2}$ tons. In 1937, the total distance flown was 623,197 miles, the total number of passengers carried 1178 and the total weight of the mails 61 tons. Again, since the commencement of the "all-up" air-mail scheme, Indian air-craft operating on the feeder services have increased their scheduled flying from 10,000 to 32,000 miles per week.* The Indian National Airways commenced active flying operations at the end of 1933 and since then they are operating a total fleet of 20 air-crafts and have carried 8,515 passengers. As the principal agents in India for the Imperial Airways and the Indian Transcontinental Airways, the I. N. A. have full charge of the ground organization and have now charge of 11 stations in India for traffic purposes, five Flying Boat Stations and six Land Plane Stations. On the Board of the Company there is a majority of Indian Directors and as much as $87\frac{1}{2}$ per cent of the total paid up capital of over Rs. 11½ lakhs is held up by Indians. The Company, however, do not see any further prospect of development except by the method of chartering foreign air-craft. It is here that the planning authority will have to join issue. The building of civil air-craft like the

*See the speech of the Chairman of the Indian National Airways at their annual meeting, December 1, 1938.

building of ships is not only a matter of commercial concern but one of national policy. Sufficient has been said to indicate that India has a growing demand for air-craft, and as the country, being of large distances, is peculiarly suited to the use of aeroplanes not only for ordinary purposes of transport but for military reasons, the necessity for manufacturing the air-craft that India requires within the country itself cannot be too much emphasized. The country is not lacking in scientists and technologists and there is no reason why the existing deficiencies in the matter of processing referred to by the Communications Member should not be capable of being corrected.

§ 4

MACHINE INDUSTRIES.

India has to depend largely on foreign machinery for the development of her industries. In the year 1933-34 the total imports of machinery and millwork were valued at Rs. 12,77 lakhs of which about half (Rs. 5,39 lakhs) were accounted for by sugar and cotton machinery. All kinds of machinery and millwork figure in the imports, from prime-movers to typewriters. It should be one of the duties of the planning authority to encourage the manufacture of machines within the country. So long, however, as it may not be possible for India to manufacture the machines there should be reciprocal trade agreements which should provide for the exchange of the surplus produce of India for such machinery and millwork. It should be arranged that for an initial period, say 10 years, the imports of such machinery should be admitted free of duty.

The importance that is attached to the production of machines is seen from the development of the U. S. S. R. In 1928 the total value of machines and agricultural machinery amounted to 1,122 million roubles while in 1931 the value had increased to 5,527 million roubles calculated at 1926-27 prices. In other words, during these four years Russia under the Five-Year Plan increased her machine production by about 450 per cent. There is no doubt that this remarkable increase of the production of capital equipment resulted in some want of balance and over-capacity in the heavy industries. What is wanted to emphasize here is the fact that without proper

attention being paid to the development of heavy industries it will be much too costly for India to proceed to implement the Industrial Plan with the help of imported machinery. Of course it should be one of the duties of the planning authority not only to regulate the supply of skilled labour forces but also to co-ordinate the production of industrial equipment so that the country might not be confronted with the problem of idle and unfinished plants for which no demand in the country might exist. Actually there is little cause for immediate anxiety at such a prospect, because for years to come, the demand for capital equipment in the country is bound to increase, if we might be permitted to use the expression, in geometrical progression.

Electrical Industry

India which is the home of mica should also be the home of the electrical industry. At present there are only about half a dozen concerns manufacturing electric lamps, but the total output of these concerns which comes to about Rs. 18 lakhs a year is estimated to be only 6·5 per cent of the total demand of India. In 1937-38 India imported Rs. 57,62,223 worth of electric lamps. Similarly, in that year the imports of electric fans were valued at Rs. 31,07,142. Apart from these products of electricity, the industry has a great future in other directions, for example, in the manufacture of power plants and electrical machineries of all kinds. The planning authority will have to organize with the aid of the scientists and that of the country's capitalists the development of the electrical industry in the country on a large scale. From hydro-electric installation to the manufacture of electric switches, the industry will be of the highest national significance. The further development of the whole of the rural economy of India depends on the introduction of cheap electricity and one of the fundamental governing factors would be the manufacture of electrical machineries and equipments of all kinds.

§ 5

CHEMICAL INDUSTRIES.

The importance of chemistry for industrial development cannot be exaggerated. The development of many of our existing

industries depends primarily on the aid of chemistry. It has played a dominant part, for instance, in the development of the textile industry in recent years.* Similarly, the dye-stuff industry is now wholly dependent on chemistry. Though this industry is probably the most complicated industry in existence, yet it is said to require very few starting products and the plant involved is comparatively simple. Coal may be cited as an example. By-products derived from it are not at present fully utilized in India. Practically nothing is derived from coal except coke, tar and coal-gas, all other valuable bye-products being wasted. By the distillation of coal tar, over 200 products have been isolated. These include Benzene, Napthalene and Anthracene and to a lesser extent Phenol, the Cresoles, Xylene and Carbazol—which are of importance in the manufacture of dye-stuff. It has been rightly pointed out that the establishment of a tar distillation plant would lay the foundation stone of the manufacture of dye-stuffs, and in addition, would lead to the establishment of a number of other industries such as the preparation of disinfectants, wood-preservatives, motor fuels, fine chemicals, pharmaceuticals, photographs, synthetic resins, synthetic tannins, solvents and the like.† It is not that talent is not available. In fact, Dr. B. C. Guha has pointed out that for the starting of many chemical industries, talent is available in the country. Raw materials and sources of power are also available. Experience has also shown that many machineries can be made according to design within the country. What is most important is that there should be the requisite contact between scientists and industrialists. The development of the departments of Applied Chemistry is a costly affair and it may be to the advantage of the respective Universities to co-ordinate the teaching of the applied sciences. The Universities will do better if they direct their research programmes mainly on the problems of local industries.

*“The complete elucidation of the structure of cellulose and all the constituents of silk and wool has given the processor a knowledge of the nature of the raw materials which has enabled him to achieve a closer approach to his ideal of producing a desired result in feel and appearance without prejudice to fibre strength. Regenerating cellulose and a variety of other synthetic fibres, individually and in admixture with the natural fibres, have opened up a new range of attractive fabrics.” See paper by Dr. R. B. Forster and Dr. K. Venkataraman contributed to the 25th session of the Indian Science Congress, 1938.

†Even without a tar distillation industry, sufficient Benzene can be obtained by stripping coal-gas and Napthalene can be easily imported, and with these two raw products a very large number of dyes can be manufactured.

For this reason close co-operation should be established between the University and the Provincial Department of Industries. The institution by the University of Bombay of a department of textile chemistry is rightly regarded in that province as the first step to bring the largest Indian industry into live contact with chemistry and chemists.

So far as the heavy chemicals, namely concentrated sulphuric acid, nitric acid and hydrochloric acid are concerned, they are already being manufactured in India and several factories for the manufacture of sodium hydroxide and sodium carbonate are in the course of erection. There are at present over a dozen large scale factories spread all over the country, manufacturing hydrochloric and nitric acid, copper sulphate, iron sulphate, magnesium sulphate, nitric alum and superphosphates. Sulphuric acid is a very important chemical upon which depends the progress of many industries. It has been rightly said that the amount of sulphuric acid manufactured in a country is an indication of its industrial development. But even now large quantities of sulphuric acid especially of the pure quality continue to be imported.

It may further be assumed that with the development of the electrical industry, the chemical industry will also receive a great impetus. But the industrial plan will require a much more accelerated pace of development and a larger scale of output. There are many chemical products which are either not utilized properly or not at all. Nor must we ignore the relationship of agricultural products to chemical industries. This relationship is due to the fact that, in the first place, chemical manures would be a cheaper and perhaps more effective substitute for the present wasteful methods, and on the other, some of the agricultural products are required as raw materials in certain chemical industries. The utilization of molasses, for instance, is one of the most urgent problems that faces the sugar industry. The production of industrial alcohol is perhaps the only solution of this problem but the use of this alcohol as motor fuel mixed with petrol will depend upon the central authority. Similarly, many chemical industries can be developed out of forest produce, for instance, the manufacture of paper. The manufacture of lac can also be referred to in this connection. Bihar and the Central Provinces provide for the major portion of lac in India.

The price of lac and shellac depends mainly upon foreign demand and is regulated by quotations in the London market. Yet India holds the virtual monopoly of lac, as she produces between 12 to 15 lakhs of maunds out of the total world production of 14 to 15 lakhs of maunds every year. But so disorganized is the state of production in the lac industry (as in many other industries) that though there has been no evidence of any shrinkage of the world demand for lac there has been a sharp fall in its price since 1934. The industries into which shellac enters are many and varied, The most important is the gramophone record industry which absorbs 30 to 35 per cent of the produce, the electrical paint and varnish industries which utilize about 35 per cent and the hatting trade about 10 per cent.* For the time being on account of the competition offered by certain substitutes for shellac, the lac industry has been hit with regard to its use in certain industries, for instance, in the electrical industry. Similarly, lac is also being displaced by synthetic dyes. With the development of the heavy industries, however, shellac would be required on a large scale.

I confess that in the few preceding paragraphs, I have had to be satisfied with a very scrappy treatment of a number of difficult subjects. I have only attempted to set the main outline of the problems. Fortunately there are in India men qualified and competent to speak with authority on the various questions discussed above. Their opinion will no doubt be sought and their aid enlisted in the great task of planning. This chapter should therefore be regarded as only a preliminary to that effort.

* Cf the "Statesman" *Indian Industries Supplement*, April, 29, 1939, p. 6.

CHAPTER XX

SMALL INDUSTRIES

§ 1

TYPES OF SMALL INDUSTRIES.

For the purposes of planning, industries are usually divided into large scale or major industries, medium-sized industries and small industries. Again, small industries are classified into small power or factory industries and cottage industries. In the previous chapter the case of the organized, that is, the major or the large scale industries has been discussed. In this chapter attention will be mainly confined to the medium-sized, small and cottage industries.

So far as the medium-sized industries are concerned it is evident that no clear-cut line can be drawn between the large scale industries and the industries which are carried on in small establishments. The difference is one of degree. The large scale industries operate on a big scale and for that reason present problems which are somewhat different from those of the industries which are carried on on a small scale. For instance, the problem of finance, the problem of marketing and the problem of management are somewhat different in the two types of industry.

Similarly, the difference between the medium-sized and small industries is one of degree. The problems also are much the same, with only this difference, perhaps, that the medium-sized industries make use of mechanical and electric power to a more substantial extent than the small industries. In many cases the small industries are of the manual type, with little use of machinery, where the workers work mostly with simple tools and implements. Again, the small industries can be carried on in cottages on a joint family or

partnership basis. So far as the cottage industries proper are concerned, the worker works in his own cottage or home and owns the capital and other means of production, at least in part, whereas the workers in the small industries are mostly wage-earners working in accordance with the directions given by the employer or employers.

Under these circumstances it will be more convenient if all these industries, namely, the medium-sized, small and cottage industries are lumped together under one category and treated as "small industries". Accordingly, the small industries would include (1) the smaller factory industries, (2) workshop industries and (3) cottage industries. It would be convenient if instead of attempting any theoretical demarcation between these three classes of industries the distinction were explained by means of examples. Thus, the factory industries will include on the one hand many of the organized industries which can be carried on on a large scale but which, in point of fact, are carried on in small establishments, and on the other, those industries which from the very nature of the industries have to be carried on in small establishments. They thus include a large variety of firms, factories and mills, e.g., rice, flour and oil mills, cotton gins and presses, soap and match factories, many chemical industries, brick and tile works, glass industry, printing presses etc. These industries resemble the large scale industries in organization because they employ modern machinery and methods of production and a large number of workers. The capital that they require is also large, though not so large as in the case of the large scale industries. Usually the capital is contributed by a single proprietor or by a joint family or by a small group of partners, whether on a partnership basis or in the form of shareholders of a private company with limited liability. Secondly, the small or workshop and cottage industries include such industries as handloom weaving, brass and bell-metal ware, gold and silver thread, *gur* making, carpet weaving, basket and toy making, dairy and poultry farming, oil crushing, pottery etc. Most of the workshop industries are in the hands of the master-craftsmen who employ junior artisans usually on piece rates, supply them with the necessary raw material and pay them wages, providing the necessary capital and undertaking the marketing of the finished goods. In the cottage

industries the workers might either work on their own with the help of the members of their families or under contract with master-craftsmen who distribute raw materials and pay the workers at piece rates.*

It is not to be supposed that the medium-sized industry is always at a disadvantage with large-scale industries from the point of view of financial returns. The size of an industry does not in itself bring greater earning power. A recent investigation conducted in the United States showed that it was not the largest firms that gave the best average profits.† Where business talent is admittedly difficult to secure, small-sized industries are expected to do better than larger establishments which are difficult to organize and control. It is easier to get suitable leadership for smaller concerns than it is for giant undertakings. This applies with particular force to a country like India. Training for a business career is inadequate in the country and business traditions also are only slowly growing up. The disadvantages from which the smaller industrial unit is said to suffer can be to a great extent removed by suitable co-operative organization both as regards the purchase of raw materials and the sale of the finished products. There can also be a great deal of co-operation in the matter of research appertaining to a particular industry. The jute mill industry of Bengal have already set an example in this direction. In a similar fashion the smaller industries also can combine for such co-operative action. What is true of the medium-sized industries is also to a certain extent true of the cottage or small industries. In fact, the problems facing the two are very much similar. With the increasing industrialization of the country and with the development of power resources in every province, the size of the cottage industries is likely to become larger in future. At the same time, with the deglomeration of existing industries, the prevailing lines of demarcation between medium-sized and small industries are likely to be less and less apparent.

*The author is indebted for this classification to Messrs. D. R. Samant and M. A. Mulky: *Organization and Finance of Industries in India* (1937), Chapter X.

†See article by Mr. H. B. Summers in the *Quarterly Journal of Economics*, May, 1932.

§ 2

PROBLEM OF COMPETITION.

The most important question that has to be answered in relation to the small-scale industries is their chances of survival against the competition offered by the big industries not only of India but also of other countries. For the present, the small industries in the aggregate occupy too important a position in the economic life of the country to be seriously threatened by the competition of big industries either now or in the near future, that is, if the present rate of progress is maintained. The statistics that have been presented in Chapter XVII must have been sufficient to disclose the slow pace of our industrial development and the fact that the size of our industries is on the average small. More significant still is the fact that the average size of Indian industries has been getting smaller, from the point of view of the average paid-up capital, during the last decade. It has also been pointed out that, according to recent estimates, as against a million and a half engaged in the organized industries, that is, industries which are subject to the Factory Act there are over 13 million persons engaged in other and smaller industries. It is thus evident that so far as the present circumstances go, the small industry is more than holding its own against its big rivals. But it is one of the tasks of planning to alter these circumstances in order to provide for a more rapid industrialization of the country. In other words, the Plan would contemplate a quickening of the pace of industrial progress by establishing large-scale industries wherever it is to the nation's interest to do so. In other words, if this object of the Plan is fulfilled the question of the proper spheres of the large-scale and the small-scale industries is bound to arise. Shall the large-scale industries and the small-scale industries compete for the same market or shall they have separate well-defined markets for which to cater?

The question, put in this form, carries its own answer. Obviously it will be against the principles of planning to encourage any wasteful competition between the two types of industry. Some demarcation of markets is therefore inherent in the problem of planning, for if it were a case of free and unrestricted competition the small-scale industries in most cases will have to go to the wall

against the unequal competition of the large industries and share the same fate which fell to many of the well-known industries of India when they had been confronted with the cheap factory made goods of the West. In other words, the planning authority should so control the development of the two types of industry that they might be treated as coparceners in a common destiny. This means that their relations would be a two-fold one. In the first place, the big industry and the small one may supplement each other. The spinning mill, for instance, may supply yarn to the hand-loom worker for the manufacture of fabrics which the mill cannot or will not produce. Secondly, the markets of the two types of industry may be made more or less independent of each other. The small industries might specialize in those articles which do not easily lend themselves to the processes of mass production or have only a purely local demand. It would, however, take a fairly long time to establish this kind of co-ordination between the large scale and the small sized industries. As it is, there is bound to be for some time to come some overlapping of the two types of industry. The circumstances of each province, the existing shyness of capital, the want of capable entrepreneurs, the poor purchasing power of the masses—these set limits to the size of an average industry. Naturally, we shall have to be content for some time to come with a large number of small industries producing articles which later on will be capable of being produced under the conditions of large-scale production. Such are the industries, for instance, of the manufacture of matches, soap, glass and glass-wares which at present are carried on in medium-sized establishments. Considered in this sense, there is a great scope for the development of such industries in the present circumstances. The match industry, for example, has developed rapidly under a protective tariff and the imports of matches have been reduced to negligible proportions. Similarly, the output of the soap industry has also increased in recent years and the imports of foreign soap have diminished remarkably. The glass industry which is also a protected industry is not doing so well because of the inadequacy of protection and the dependence of the industry on foreign raw materials. Yet it is a developing industry and the figures of foreign imports show that there is yet a great room of development in this industry in India. These are only some of the typical

industries which have great possibilities in the country. There are numerous other industries which likewise have great scope for development provided they get suitable assistance and facilities for such development.

Similarly, in the case of the cottage industries, it is inevitable that there should be competition between them and the factory industries. Thus, reference has already been made to the fact that a friendly co-operation between the textile mills and the hand-loom weaver is not impossible. There is, however, the possibility of competition, for several complaints have been received at successive sessions of the Industries Conference regarding competition between mill and hand-loom products. It will be the duty of the planning authority to restrict the scope of such competition, and for the time being, such restriction must necessarily operate to the advantage of the weaker and more numerous party, namely, the cottage workers. The best arrangement would be to minimize the possibilities of such competition by a careful planning of the industries including the location of such industries.

§ 3

ORGANIZATION.

The problem of the organization of the small scale industries may be studied from the productive as well as the distributive side. The successive Industries Conferences have brought to light many of the defects to which these industries are subject in regard to both these aspects. Thus, the general complaint of the hand-loom industry has been, as already pointed out, their inability to compete with the mill products. There are many reasons why this is so. The hand-loom products are not properly finished and the installation of calendering and finishing plans and of bleaching apparatus is beyond the capacity of most of the weavers. Again, the weavers have to purchase their raw materials sometimes at prices which are too high for the industry. Thus, it has been calculated by the Textile Expert to the Government of Madras that the import duty on yarn tends to increase the price of hand-loom cloths by as much as 20 to 25 per cent. The weavers as yet have no continuous employment in most of the provinces which also, to a certain extent, is responsible for the increase in the cost of hand-loom products. Again, it has been

the experience of Bombay that the weavers of the province could hardly earn four annas a day as weaving wages in producing usual qualities of cloths on account of over-production and consequent reduction in rates. On the other hand, there is a great scope for the introduction of new designs and for the variegation of the hand-loom products. Certain provinces have appointed expert designers to help the weavers with new designs. Thus, the Bombay Textile Designer introduced about 140 designs in 1937 and the Bengal Designer introduced about 120 designs most of which have been successfully adopted by the weaving community. There is a great possibility for co-operative organization in this as in many other cottage industries. By co-operative effort facilities hitherto unobtainable may be secured for the purchase of raw materials, of improved appliances, of technological knowledge and the marketing of the finished products. Wherever co-operative organizations of this type have been working they have proved a success, though the limited scale of these efforts has naturally evoked criticism and in some cases has been responsible for rousing antagonisms in the local areas. Thus, the United Provinces reported in 1937 that the average income of the weavers working for the Barabanki Stores was almost double the usual earnings of others; they had been relieved of the burden of buying the raw material and marketing the finished product and consequently of the risks of market fluctuations. Their work also has been of a continuous nature. But the Stores had to face the antagonism of the middlemen who had been doing all they could to poison the minds of the weavers. As all the weavers at the centre could not be brought within the fold of the Stores, the jealousy of the majority against their more fortunate brethren had given the middlemen a good handle. One advantage of co-operative or joint organization is that the different organizations could specialize in different kinds of products. Thus, again taking the United Provinces as the example, one store developed the weaving of towels and of upholstery cloths, another centre specialised in gauze, jaconet and bandage cloth, substantially assisted by the patronage of the Government Press, the Medical College and other civil hospitals, a third centre produced artificial silk goods and so on. All these centres have not been organized as yet on the co-operative basis, but it is expected that before long they will be based on the co-operative model.

So far as the internal organization of the weavers is concerned, the most important problem is of course the problem of marketing. Here again, we may refer to the hand-loom industry. The problem of marketing includes three inter-related problems : (1) The question of competition among the weavers and exploitation by the middlemen, (2) the question of competition between the mills and the weavers and (3) the question of extending the market for the hand-loom products. So far as the first question is concerned, examples of cut-throat competition as among the weavers are by no means rare. Such competition is often forced by the middlemen. Thus, the weavers in Mau which is the biggest hand-loom centre in the United Provinces have been found to engage in cut-throat competition which leads to deterioration in quality. The competition among the weavers is further stimulated by the *arhatias* who accept orders at low rates and force those prices on weavers who depend on them for business. The only solution seems to be to organize the weaving community in co-operative groups and help them with suitable assistance in regard to the various problems which they have to face. So far as the second question is concerned, that of competition of mill products with the hand-loom products, suggestions have been made for legislative prohibition restricting the mills from weaving cloths with yarn of counts below a certain limit. Such legislative aid has been regarded as impracticable. In any case, the planning authority will certainly have to secure a rough demarcation of the production of the mills and the hand-looms and the regulation of the classes of fabrics to be produced by each. The authority must also see that the weavers are supplied with yarn at cheap rates and work with cheap and economical appliances. As regards the main question, that of marketing, the greatest attention should be paid to this aspect of the problem. If there is any single problem affecting the small and the cottage industries of the country, it is that of marketing. Here also there is a great room for co-operative effort; but it is also a fit case for the active assistance of the Government. The mere opening of a few sales depots is not sufficient. The problem is to give continuous work to the weavers and thereby to reduce the cost of labour and to increase the purchasing power of the workers. The aims and objects of the Bombay District Industrial Co-operative Associations may be quoted in this connection as a fairly accurate

description of the problems of marketing. These objects are (i) the supply of improved appliances on a hire-purchase system or otherwise, (ii) the supply of raw materials at reasonable rates, (iii) advising patterns and designs, (iv) the undertaking of preparatory and finishing processes as well as dyeing and printing, and (v) the acceptance of, on consignment account against partial payment, hand-loom products from weavers and the purchase outright of such products and their sale. These objects could be implemented, as in the Punjab, by employing the weavers directly for the execution of orders received through buying agents and by increasing the scope of their work by giving latest and marketable designs. It has been reported that in certain parts of the Punjab the weavers used to get work only for 125 to 150 days during the year but since the introduction of the marketing scheme they are now able to secure work for over 300 days during the year and the earnings of weavers in certain areas have increased by over 100 per cent. Another problem of marketing is that of standardization. Lack of standardization often operates as a handicap in the way of the dealers placing orders for the hand-loom products and a wide extension of the market will certainly be difficult without a proper standardization of the products. How wide the market for hand-loom products, particularly of the specialized types, can be is not easily realised. It is well-known that many of the fine fabrics produced in India formerly found ready sale in Europe and elsewhere and the remnants of such markets are even now discernible in certain cases. Such products used to be hawked by itinerant traders from India going out of the country and selling goods directly at a considerable margin of profit. Such markets have now been lost to a great extent on account of the prohibition of such trading in the countries concerned. Such markets, however, even now exist and can not only be preserved but even extended with suitable State assistance and specialization of production. Thus, Bihar art textiles have a very good market in New Zealand which in 1936-37 increased by 100 per cent compared to the previous year. The British market too, increased though not in the same proportion. Products of other provinces also found valuable overseas markets. Such markets are undoubtedly capable of further extension.

In the preceding paragraphs the case of the hand-loom industry which is by far the largest cottage industry in the country has been

studied. To a great extent, problems of this industry are typical of the whole range of India's cottage industries. Technical efficiency in production, delimitation of markets as between the large factory and the small industries, standardization, specialization of production, marketing facilities—these are the most important of the common problems that face the small industries.

Generally speaking, these are also the problems of the smaller factory or workshop industries. A primary need, however, in the case of such industries is that of adequate technological training. The planning of these industries will require, in the first place, the consideration of the optimum size of such industries as in the case of the large industries and the adequate provision of technical skill and direction in the organization of such industries. The first question can be determined only after there has been a thorough survey of the existing industries and of the potentialities of new industries. The survey should include not only the existing capital equipment of the industries and their personnel; it should also include the location of such industries with particular reference to their transport relations, e.g., their proximity to the markets and accessibility to raw materials and the sources of power. The question of power, on its part presumes a thorough investigation of the problem of supplying cheap electricity, whether hydro-electricity or thermal electricity. In fact, the development of cheap power resources may be said to hold the key to the future development of Indian industries, whether large-scale or small-scale. This question will, however, be examined in the next chapter. In the next section some specific industries which can be started on a small scale are discussed.

§ 4

SOME SPECIFIC INDUSTRIES.

The Glass Industry

The glass industry is one of those industries which can be carried on on a small scale with moderate capital. The total production of the Indian glass industry is not very great and we are still importing about a crore and half rupees worth of glass and glassware. The

principal classes of articles made of glass have been summarized by the Tariff Board on the glass-industry (1932) as follows: (1) Sheet glass, plain and figured, (2) blown ware, e.g., bottles and phials, globes, chimneys, jars etc., and pressed ware, e.g., glass tiles, ink-stand, bowls, dishes etc., and (3) bangles, beads and false pearls. So far as the manufacture of sheet glass is concerned, the Tariff Board regarded the factory at Bahjoi in the United Provinces as a "reasonably economical unit for a sheet glass factory". The total capacity of the factory was in 1932 worth about half of the value of the total import of sheet glass so that even on the 1932 calculations, there was at least room for another factory if such a factory could be economically managed. The size of the factory, however, is fairly large, the value of the machinery, furnace and building being in the neighbourhood of Rs. 7 lakhs. A very serious handicap in the way of the development of the sheet glass industry was, as the Tariff Board found, the heavy import duty of 25 per cent on soda-ash. Thus, the import duty on soda-ash in Belgium which undersells the Indian sheet glass in the Indian market amounted at par of exchange to less than 4 pies per cwt whereas the Indian duty was nearly Rs. 1-8 per cwt. So far as the author is aware, there is no production of figured and ribbed glass worth the name in India. Similarly, plate glass also is not at present manufactured in the country though there is good scope for the establishment of at least one plate glass manufacturing firm, as the total imports of plate glass were valued at about Rs. 9 lakhs in 1930-31. By far the commoner kind of glass manufacturing concerns in India includes those manufacturing blown glassware consisting chiefly of bottles, phials, globes and chimneys. The average size of these factories is moderate or small. The Tariff Board which based their calculation of the production costs on the returns furnished by the Calcutta glass silicate industry found the total expenditure of the factory inclusive of rent, taxes, etc., and interest on working capital to be Rs. 2,24,480 in 1930 for an output of Rs. 1,150 tons. The maximum capacity of the factory is approximately 4000 tons. The net replacement value of the factory is, however, estimated by the Board at current prices to be about Rs. 1,50,000. One defect of the glass industry in the country relates to the fact that the finishing of the manufactured ware is carried on by hand. There is no doubt that if hand-labour were replaced by automatic machinery, the

ultimate costs would be reduced considerably. In, fact, the Board estimate that the total labour cost would be reduced by as much as 75 per cent if automatic machines do the work at present done by hand-labour. So far as the manufacture of bottles is concerned, there is the additional difficulty that the capacity of the bottles manufactured is not uniform. Here again, there is the necessity for the use of automatic machinery and of experienced and skilled supervision in the works. With regard to the manufacture of the third category of glassware, namely, bangles, beads, and false pearls, the Indian market is well-supplied with cheaper varieties of bangles by the local manufacturers though the superior quality of fancy bangles yet offered a considerable scope to enterprising industrialists. For the manufacture of bangles of superior quality, the Tariff Board recommended the instalment of recuperative pot furnace in the place of the existing direct fire furnace. This of course will require a heavy initial investment but it will be more than compensated by increased profits due to higher prices. While, however, the market for bangles is, as already pointed out, fairly well-supplied by Indian manufacturers, the manufacture of beads and false pearls has not been taken up on sufficient scale. Here also there is scope for the further development of the industry.

The glass industry is thus one of the industries which it is possible to start with moderate capital and it is not at all improbable that, with sufficient patronage and assistance, the industry will be able to displace the whole of the imports. At present there is considerable scope for research work not only on the materials used by the industry but also on the type of the furnaces installed and the methods of manufacture. On the question of the raw material, the Tariff Board have already referred to the high proportion of soda-ash used by the industry. This acts as a double disadvantage. In the first place, a high proportion of soda-ash is known to detract from the durability of the glass and, secondly, it adds to the cost, since soda-ash is the most expensive of the principal raw materials used for the industry. The use of soda-ash by the glass industry has also operated as a disadvantage in so far as the industry has to depend on the imported material. The Tariff Board, however, referred to the various sources of the supply of this material within the country which could be tapped by the industry, though, of course,

the correctness of this finding has been challenged. The type of the furnaces installed is also to be adjusted to the proportion of soda-ash used in the industry. In other words, the type of the furnace will have to be related to the different kinds of glassware manufactured and to the fact whether quality or quantity is aimed at. The methods of manufacture similarly require a good deal of improvement. There is, for instance, a large percentage of breakage in our glass factories which should be capable of reduction.

Research, therefore, should concentrate mostly on two problems: (1) the reduction when necessary in the proportion of soda-ash used by the industry and (2) the development of the Indian sources of supply for this material. It was extremely unfortunate that the Government of India rejected the Tariff Board's recommendation for protection to the glass industry on the ground chiefly of the dependence of the industry on imported soda-ash, ignoring the various other advantageous with the industry enjoyed. The Government's decision to offer a rebate on imported soda-ash for the use of the glass industry was no doubt meant to be a concession to the industry but it also threatened to arrest the development of the subsidiary industry of producing soda-ash. Moreover, the benefit of getting the raw material cheap would presumably accrue to the larger factories under the system of rebate while the indigenous cottage industries which are an important wing of the glass industry would be at a corresponding disadvantage. It is time that a full review of the industry should be undertaken with a view to organizing it on a self-sufficient and economical basis. The following represents the imports of glass into India for the period 1929-30 to 1937-38.

TABLE
Imports of Glass (In lakhs of Rs.)

Year	Amount Rs.	Year	Amount Rs.
1913-14	195.0	1933-34	122.13
1929-30	251.93	1934-35	132.60
1930-31	164.77	1935-36	132.02
1931-32	121.97	1936-37	120.03
1932-33	142.47	1937-38	151.88

The Soap Industry

The soap industry is one of those industries which has rapidly developed and is still developing without the assistance of any effective protection. The following figures represent the value of the imports of foreign soap during the pre-war period, the war period, the post-war period and the years 1936-37 to 1937-38.

TABLE
(In thousands of Rs.)

Pre-War Average	...	61,87
War Average	...	96,45
Post-War Average	...	1,71,16
1936-37	...	25,37
1937-38	...	24,46

It is, however, to be seen that the development of the industry has only been very recent. A good deal of the capital of middle-class families has been invested in this industry. The outturn of the factories has been of a more or less high quality and there is no reason why India should not before long be able to supply the full requirements of the country. According to the figures collected by the All-India Soap Makers Association, the present volume of the production of soap in India is nearly 60,000 tons as against an import of 2100 tons. Even at these figures the consumption of soap *per capita* is insignificant and one can say without hesitation that the possibility of the expansion of the soap industry is in a tropical country like India almost unlimited. Here is an instance of an industry which could be started with moderate capital, for which the provision of technical skill would not be so difficult on account of the large number of graduates in science who have been passing out of the Indian Universities with chemistry or applied chemistry as one of their subjects. It is an industry in which the educated young men belonging to the middle-class can play a leading part, even with a moderate capital.

The Match Industry.

The match industry is one of those industries which has been substantially benefited by the protection that has been granted to it. The following figures of the imports of matches into India will testify to the development of the industry.

TABLE

(Value in thousands of Rs.)

Pre-War Average (1912-14)	...	88,21
War Average	...	1,53,31
Post-War Average	...	1,76,68
1936-37	...	14,05
1937-38	...	20,44

As a matter of fact, practically the entire market of the country has been captured by the match industry of India. With regard to this industry there is, however, the not altogether satisfactory fact that the market is dominated by a practically foreign combine which has established itself behind the tariff wall. As a matter of fact this tendency of foreign industries transplanting themselves to this country in order to take advantage of the protective duty and to avoid paying, high rates of import duty has raised serious misgivings in the minds of Indian business and industrial interests on the ground that such development run counter to the fundamental principles of protection. Up to a point this criticism is justified. But there is undoubtedly an advantage to India if foreign concerns instead of exporting their products utilized Indian raw materials, Indian labour, paid taxes to the Government, distributed the profits within the country and undertook the risks of pioneering thereby stimulating Indian capital and enterprise. It is, however, necessary that such concerns should be made to work under proper safeguards. The following safeguards may be suggested, namely, (1) the industry should be started with a rupee capital, (2) that at least half of the number of directors should be Indians, (3) that each such company should guarantee to take a specified number of Indian apprentices for training, (4) that a certain percentage of the profits should be held in reserve in India and invested in Indian securities, and (5) that they must work under a system of licences specifying these terms and conditions, the licences being revokable if any of the terms and conditions are violated.

So far as the match industry is concerned, the imposition of the excise duty on the matches has it is complained proved a handicap in the way of the development of the industry. The method of the issue of the banderolls has penalised the smaller industries for the

benefit of the larger ones. It is always a wrong principle, unless evidence is forthcoming to the contrary, to impose an excise duty during the continuance of the period of protection. Even when an industry is found to be clearly over-protected, the obvious course would be not to offset the protective duty by a countervailing excise duty but to lessen the measure of protection in the interests of the consumers.

The Film Industry

Another growing industry in which the educated classes of the country have extensively interested themselves is the cinema industry. In recent years there has been a remarkable development of this industry but it is yet far from meeting the full needs of India. The cinema industry is a composite industry consisting of film producing, film distributing and film exhibiting concerns. It has been estimated that there are still in India as many as 2324 towns without a cinema house so that the average circuit of an Indian picture is much too limited to bring adequate returns for any huge investment on the productive side. For this reason Indian film producing concerns cannot produce such high quality pictures as their foreign prototypes. It is stated that foreign producers can invest huge amounts of money in the production of pictures because such pictures are capable of being exhibited in many countries instead of being confined to only one country. It is not realised that India from the point of view of the potential market that it offers to the cinema industry is more a continent than a country. It has already been mentioned above that there are as many as 2324 towns without a cinema house. The large majority of the population, however, live in villages and a cinema in a village is in the present circumstances of India more a fantasy than a practical proposition. Yet an estimate can be attempted of the potentialities of the Indian market. The total rural population of India according to the Census of 1931 is 31,38,52,351 distributed in 6,96,831 villages. If these people were enabled to see one film a year then on the assumption of two annas per ticket the industry would yield an additional Rs. 3,03,26,532. When it is realized that the rural population of India is practically absolutely illiterate in English and would not understand any picture except in their own tongues, a sense of the huge non-competitive market that exists for the Indian film industry can easily be

achieved. It has been estimated that the existing volume of receipts at the box offices of the cinema houses that have been established in the country does not exceed Rs. 3 crores annually and that even at a modest computation this sum could be increased to Rs. 10 crores a year. The main difficulty of the industry at present is the high cost of finance. Though some of the film magnates have been financing their own concerns, the majority of the film producing studios have to depend on outside finance and it is a notorious fact that such finance can be secured at rates that may be as high as 50 per cent a year. After paying the distributors and the exhibitors very little remains for the producer, the chances being that the business would be in the end a losing concern. A deputation that waited on the Commerce Member of the Government of India in January, 1939 brought home to the Government the financial difficulties from which the industry has been suffering. The deputation pointed to the fact that many of the recommendations of the Cinematograph Committee of 1927-28 had not been implemented and urged that the recommendations regarding the establishment of a central body to guide and advise the Indian film industry in the same way as the British Film Institute in England or the Federal Department of Visual Instruction in Germany help their own industries should be given immediate effect to. The deputation also urged the establishment with Government encouragement of special banks on the lines of the land mortgage banks to finance the film industry. The industry has rightly complained that though it has been providing to the Government a substantial source of revenue by way of import duty, the Government have not felt interested in extending their active assistance for the development of the industry. Both the Fiscal Commission of 1921-22 and the Indian Cinematograph Committee of 1927-28 had urged a substantial reduction or the abolition of the import duty on unexposed films and film machinery. Raw films are not made in India and in the absence of necessary scientific and technical training for which at present there are no facilities in the country, the local manufacture of films and accessories is at the moment an unpractical proposition. The first All-India Convention of the Motion Picture Society in India which met at Bombay in February, 1935 put forward the following demands, among others, for the development of the industry : (a) the necessity of reducing the present high level of the import duty on films (b) the need of assisting the industry

having regard to the heavy cost of production of a film and (c) an official organization to safeguard the interests of the industry from unfair competition. The last demand will have to be supplied by the planning organization. Without it, the industry will only lose its way in the wilderness of conflicting interests.

There is thus no doubt that the film industry of India is one eminently deserving of protection, the word "protection" being understood not in its technical sense but in a wider sense so as to include every form of encouragement and assistance. No other industry, in fact, includes or assimilates so many allied and ancillary industries. Literature, art, engineering, photography, technology, history, painting, music, architecture, coiffures, dress, and ritual—all these contribute to the making of a film and it may be truly said that the cultural setting of a cinema touches every aspect of our life and there is no other industry so powerful in its appeal to the mass mind. It is true that the industry as it is organized to-day suffers from serious technical as well as organizational defects. The establishment of a central authority will help to eradicate these defects. The industry has come to stay and the more quickly we can rationalize it the better it would be for the industry as a whole.

The Ceramic Industry

The ceramic industry is one of those industries for which ample raw materials exist in the country and there are also skilled workers who can manufacture, with suitable financial and technical assistance, quality goods such as would be able to compete with foreign products. In Japan, the industry is carried on in the shape of a cottage industry backed by the State. The following table will give an idea about the extent of the drain that takes place out of the country in the shape of the imports of earthenware :—

TABLE

		1932-33	1933-34	1934-35	1935-36	1936-37
Bengal :	Rs.	4,52,862	4,91,900	5,02,245	6,32,099	5,54,301
Bombay :	"	6,70,429	6,82,656	7,06,559	6,42,229	6,68,671
Sind :	"	1,05,653	1,03,980	1,31,160	85,395	1,58,109
Madras	"	2,06,320	2,11,024	2,28,699	2,06,048	1,92,479
Burma :	"	5,29,468	3,68,602	2,36,754	3,37,344	3,45,075
Total :	Rs.	19,64,732	18,58,162	18,05,413	19,03,115	19,18,634

It has been suggested that so long as the State does not find it possible to assist the growth of the industry or there is insufficiency of capital, there are two possible ways by means of which the local demands may be satisfied. One is to import small quantities of thoroughly pulverized raw materials at different localities from a central station and to undertake manufacture of different goods or to utilize local clays for the production of certain varieties of fine earthenware. So far as the Indian potters are concerned, there is no dearth of artistic skill in them. It is well-known that the Berhampore potters have developed the artistic side of their production to a very high standard and their designs are so neat and execution so exquisite that their articles can compete with the best production of the world. But they have been compelled to sacrifice the artistic excellence of their goods to meet the requirements of the poor people in the locality. Moreover, the composition of the body mixture is defective and the potters are ignorant of possible improvements in the quality of their ware. One of the handicaps in their way so long has been the impracticability of getting materials either for the glaze or for the engobe. It has, however, been established that the quality of the goods can be improved with the help of raw materials available in the locality. Thus, the alluvial clay of the Gangetic deposit has been shown to be quite a good material and the glaze that may suit very well for the purpose is one composed of red lead, borax, soda, sand and grog (fired mass of the clay) of the same material which after frittering should be applied on to the wares. If a survey of India's clay is carefully made, it is quite likely that sufficient material for the manufacture of white pottery on modern lines can be obtained. It may be recalled that it was the discovery of a deposit of China clay in the Rajmahal Hills in 1904 that marked the advent of the manufacture of white pottery on modern lines in India. In 1937-38, India imported Rs. 29,25,490 worth of porcelain wares. She is also manufacturing crockery, sanitary ware, electric insulators, dolls and household requisites but the quantity is negligible as compared with India's requirements. With the aid of the State, however, the industry may be sufficiently organized to meet the full requirements of the country both for the cheaper variety of earthenware as well as for the quality and artistic goods.

Other Industries

The above are only a few of the typical industries which can be carried on in medium-sized establishments with moderate capital and with a fair share of managing ability. It would, however, be wrong to think that these industries exhaust the list of industrial undertakings that can be started in the country with a fair expectation of profits. The table below gives some of the items which India at present imports but which can be substituted by Indian products. All these products can be manufactured with the help of moderate capital and in medium-sized factories:—

TABLE

(Value in thousands of Rupees)

<i>Articles</i>	<i>1937-38</i>	<i>Pre-War Average</i>
Hosiery	29,04	92,86
Handkerchiefs and shawls	10,06	52,20
Electrical goods	3,46,75	70,27
Musical goods	23,35	22,73
Photographic goods	1,13,72	9,98
Canned and bottled provisions	62,87	40,16
Biscuits and cakes	27,20	37,08
Confectionery	18,80	24,04
Milk, condensed and preserved	19,37	32,57
Woollen goods	3,30,07	3,08,37
Glass and glassware	1,51,88	1,61,92
Soap	24,46	61,87
Stationery goods	81,02	57,81
Toilet requisites	67,85	20,48
Toys	44,05	40,05
Umbrellas and fittings	28,06	41,95
Matches	20,44	88,21

It will be seen from the above that while in some cases the imports of the articles concerned have diminished, in others there has been an increase in the imports. In the latter case, the imports bear testimony to the existence not only of a substantial market for the articles concerned, but what is more important, markets that are actually expanding. In either case there is no reason why Indian manufacturers should not be able to capture the whole of these markets and thereby add wealth to the country.

It has to be repeated that these industries should have to be very carefully planned. Each of the provinces should be asked to report on the potentialities for the starting of such industries as well as the existing production of such industries. On the receipt of the provincial reports, the central authority will have to plan the provincial distribution of the industries with a view to the most effective utilization of the economic resources of the country on a regional basis. The provinces themselves have given evidence of their appreciation of the fact that it is more advantageous to concentrate on a few industries for which natural and economic advantages exist within the province concerned than to start a large variety of industries without any due appreciation of the possibilities or difficulties of such industries. Thus, the Srivastava Committee (1934) in the United Provinces which laid down a plan of industrial development for five years recommended the establishment of the following minor industries, namely. open-pan sugar factories, oils and soaps, engineering, hardware and electro-plating, gold and silver thread manufacture, textiles, fountain pens and wood-work. The Committee also divided cottage industries into artistic and non-artistic, and after a careful and exhaustive survey of their present position and needs, recommended that both minor industries and cottage industries should be helped in certain specified directions, primarily (1) marketing (2) giving them expert advice and (3) carrying on experimental and research work on their behalf in accordance with a fixed plan. With regard to the non-artistic goods, the Committee proposed that the workers should be taught to specialize in the manufacture of articles which did not compete with the factory products, that popular designs and patterns should be introduced and that such articles should be standardized. It will be possible in a similar manner in the different provinces to make recommendations for specific industries to be started in those provinces and on the method by which such industries might be effectively assisted. It should at the same time be the duty of the provinces to recommend the starting of new industries. The aid of science will be of great assistance in determining the possibilities of such industries in India. We may refer, for instance, to the industry of the chemical dyes. Similarly, in a country like India there is a great scope for the manufacture of air-conditioning plant. Air-conditioning may be popularly described as the manufacture of weather. Its importance to industry, in places

of entertainment and in the home is well-established in the West. In the industrial world there are many articles the production of which is improved if the atmospheric conditions could be controlled. It has been estimated that 200 manufactured products are better turned out with the aid of manufactured weather. The manufacture of rayon is one of them. In the printing business some of the papers used are extremely sensitive to atmospheric variations which spoil fine colour process work. Similarly, the disadvantages of impure atmosphere in large bakeries have been removed by air-conditioning. In factories also, air control is regarded as the most important element of ensuring the maximum productivity of the workers by minimizing industrial fatigue. Several Japanese cotton and artificial silk mills have installed air-conditioning plants. In India where industrial fatigue is climatically inevitable the need for air-conditioning is obvious. Another new industry to which Japan has taken with great profit is the production of synthetic staple fibre. The world production of staple fibre has increased from 6,500,000 lbs. in 1931 to 70,000,000 lbs. in 1934. Staple fibre, like rayon, is derived from the same primary product, cellulose, and the initial stages of its production are analogous to those of artificial silk. While cotton as a natural product is subject to nature's vagaries causing irregularity of staple, the synthetic product guarantees regularity of the staple which constitutes its chief industrial importance. Another recent industry that has attracted attention in India is the manufacture of radio goods. We have also referred to the scope of starting fruit industries in India.* Here we may mention the importance of a particular fruit, namely, mango. Mango has been truly described as a great gift of nature to India. But the gift has been sadly neglected. Experts are of opinion that a mango tree can yield over Rs. 30 worth of fruit in a season of about three months and is therefore a most profitable proposition. Apart from its fruit, every part of the tree has an economic value. The timber makes good firewood and is used largely for planks. The green leaves have a medicinal value, an antiseptic gargle being prepared therefrom as well as a vegetable dye. Mango essence flavours puddings, ice-cream and cold drinks. The seeds have certain medicinal properties and in the powdered state are edible. But all these good properties of the mango tree and

*Chapter XIII, § 1.

its fruit are now largely wasted. There are areas especially in Bihar and Bengal where mangoes are so plentiful in a good season that they are given to cattle as fodder, the only present alternative to garbage. The introduction of canning of which the possibilities have been examined in an earlier chapter would give the necessary stimulus to the industry. The taste of the Indian people for canned fruit is improving. There is also an export market for the fruit. Recent efforts have no doubt proved disappointing but the failure of the efforts has been due to other reasons than the deficiencies of the fruit itself.

The study of these industries is not meant to be exhaustive, but illustrative. Sufficient light has been thrown on the problems of the industries studied to confirm the view that they require not only national support but national guidance. This would not be possible until a thinking and planning machinery is set up. In the next section the case of the cottage industries is discussed. Here again, no elaborate or detailed study has been attempted but a few broad problems affecting the industries have been analysed to show that in the case of the cottage as much as in the case of the medium-sized and large industries, these problems require the institution of a thinking and planning authority.

§ 5

RURAL AND COTTAGE INDUSTRIES.

Turning now to rural and cottage industries, the important place that these industries at present occupy in the economic life of the country has already been explained. What is needed is the problem of evolving a suitable scheme of assistance for the resuscitation and reorganization of the industries. It is needless to repeat that there must be before any such scheme is evolved, a full survey of the existing cottage industries of each province and their present condition. The survey should further include an investigation of the problem of starting new industries. At present the largest industry which is carried on in cottages or the homes of the workers is the handloom industry. Other industries include brass and bell-metal manufacture, gold and silver thread industry, silk industry, coir weaving and a host of other industries. It is not necessary to study in detail the technical organization of these

industries. They suffer from common deficiencies in respect of technical equipment, economic advantages and organization. The main problems are the same. On the technical side it is necessary to bring to the notice of the cottage workers improved methods of production by the introduction of suitable labour-saving machineries and appliances and of up-to-date modern designs and patterns in manufacture. Most provinces have appointed skilled designers with regard to certain industries. This practice of appointing designers should extend to all industries which can make use of their services on a co-operative basis. There should also be demonstrations of the utility of new machineries and appliances relating to any industry but the demonstration should fail in its purpose if the price of these machineries and appliances is not within the reach of the average worker. Where the price is reasonable but a little too high to be paid outright, it should be payable in easy instalments. The help of the regional committees as proposed in Chapter X should be enlisted for organizing such demonstrations. Instead of attaching one demonstration party to each regional committee, there might, if necessary, be peripatetic parties each being in charge of a circuit covered by 4 or 5 such committees. These demonstrations should be organized by a Rural Industries Commission already suggested in an earlier chapter.* The Rural Industries Commission should work as a necessary part of the scheme of village reorganization. The other parts of the scheme as already suggested would consist of a Rural Education Commission which would be the central association for guiding the education of the adult, a Cottage Industries' Institute for undertaking research work on the cottage industries in each province and any other associations that might be found desirable to set up from time to time,

A few words may now be said about the parent body itself which would have the charge of the entire work in, and relating to, the villages. The view that has all along been taken of village improvement in this work is that the village in India requires a comprehensive scheme of economic, social and cultural improvement. If this end is to be kept in view, Gandhiji's scheme of the all-India Village Industries Association will meet the requirement only in a partial manner. No doubt Gandhiji's scheme represents only a beginning and provides for a fuller development as the scheme matures. Even

*Chapter X, § 4.

when it is fully developed, however, the scheme will touch but one aspect of the villagers' life. It makes no attempt to relate the village economy and culture to the bigger world outside the village. In a comprehensive plan of village improvement therefore, while the All-India Village Industries Association will play a very important part, it will have to be subordinate to the parent body which will look after not only the economic interests of the villagers but be the guardian of their welfare in every sense of the term. The regional committees would be only the working units of the parent body. These units should be as much related to the Central Board of Agriculture as to the parent body to be set up for guiding the task of village improvement. The parent body might be called the Rural Development Trust one of whose principal tasks would be to administer the funds allocated by the Central Planning Authority out of the Rural Development Fund. The Trust would be one of the most important instruments, if not the most important instrument, of the scheme of planning contemplated in this work. It should guide not only the development of village industries, both old and new, organise research and promote education, but undertake all the purposes for which the Rural Development Fund is to be instituted. The Rural Development Trust should consist only of men whose character is unimpeachable, men whom idealism and a practical outlook on life are happily combined, men who could by their own example inspire and lead others—in short, it must consist of the greatest men living in the country. The whole plan of economic betterment would stand or fall on the success or otherwise of the Village Development Trust, for it must not be forgotten that India lives in the villages. The Trust should be established at first on provincial basis, and then the Provincial Trusts should find in the National Economic Council a co-ordinating authority. This could be ensured by providing that the schemes approved by the Provincial Trust should require the sanction of the National Economic Council before they can be implementd. The Chairman of the Provincial Economic Council should also be the Chairman of the Trust; beyond that the composition of the Trust should be subject to no other restrictions. The total number of members should not ordinarily exceed twelve.

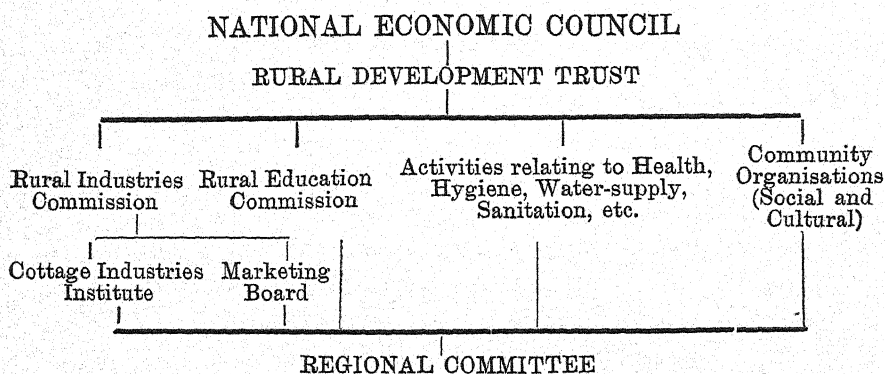
So far as the Rural Industries Commission is concerned, it

should operate as a wing of the Rural Development Trust and it should represent the Trust in all matters relating to its own sphere. The Commission should have a certain proportion of members who would represent the interests of the public. Apart from these members, however, the Commission should mostly be composed of technical experts and economists which might be added to from time to time. whenever a particular industry is under consideration, by taking in as members persons with special training in or experience of that industry. The Cottage Industries Institute should be a purely scientific body, amply subsidized by the State. The Institute would be subject to the authority of Rural Industries Commission. The Commission should also be helped by a Marketing Board to organize the marketing of the products. The question of finance will be discussed in a separate chapter.

§ 6

THE PLAN.

It is possible now to summarize the conclusions of the preceding sections to lay down the structure of the Plan. It may be represented graphically as follows :



It will be seen from this chart that the question of the development of small and cottage industries has been made part of the scheme of the development of the rural areas. This is as it should be. Though there are small industries in the urban areas the majority of them will be found in the rural areas. It has already been indicated that it is very difficult to lay down a clear line of demarcation between the organized industries and many of what are called minor industries

Similarly, the minor industries and many of the cottage industries are difficult to distinguish. The industries that have a rural bias and that depend mostly on the resources in men and talent in the rural areas concerned will come under the scope of the Rural Industries Commission. The minor industries which by their location, importance and scale of operation approximate more to the conditions of organized industries will naturally be the concern of the National Board of Industries. So far as the rural industries are concerned, they will come under the scope of the Rural Development Trust. The Trust will be placed immediately under the National Economic Council alongside of the National Board of Industries, with this difference that while the National Board of Industries would be constituted on an All-India basis, the Trusts would be established on a provincial basis, the co-ordinating principle being supplied by the National Economic Council itself. Another important point to notice is that the Trust would be in charge of a huge fund and would therefore have to engage itself in financial responsibilities of a very onerous character besides the duty of initiating, promoting and recommending schemes of rural development.

CHAPTER XXI

INDUSTRY AND POWER.

§ 1

EXISTING CONDITIONS.

The question of power resources has been briefly referred to in Chapter XVIII. In that chapter we reached the following conclusions:—

(1) The two most important sources of power are coal and water. So far as coal is concerned, it may be used to produce steam power or electric power. Water also is an important and at the same time cheap source of electric power.

(2) There is at present a great deal of wasteful and unscientific use of our coal resources. As the quantity of coal is limited, the greatest care should be taken to conserve it for proper utilization.

(3) Even at the present rate of production and methods of extraction, the Indian Coal Mining Committee (1937) have estimated that the reserves of good quality coal will last 122 years and of coking coal 62 years. Though with the rapid development of industries and of electric power and with the increasing use of coal for its by-products, there would be a greater demand for coal in the near future, yet the reserves are sufficient for the time being to meet any possible calls that a national industrial plan will have to make upon it.

(4) It has been estimated that when coal sells very cheap, for instance, at Rs. 10 per ton, it becomes cheaper as a source of power than water, except where water power can be obtained right on the spot. With a fairly high price for coal, say Rs. 30

a ton, water power would become cheaper and for a well-sustained industrial load, invariably.

(5) It is also the opinion of experts that where the bulk of the load can be located within 150 to 200 miles of the source of the power, the economic advantage in generation usually lies with the hydro-station; any increase in this distance, specially in an easterly direction or towards the coal-fields, gives a counter-vailing advantage in favour of local steam stations interlinked with hydro-network.

(6) There is no accurate estimate as yet of the total power resources of the country. A survey made in 1921 estimated the total water power resources of India at 5.58 million kilowatts or 7.44 million electrical horse power.

(7) With the introduction of the Grid System, the prospect of getting electricity at a rate that may be within the means of the poorer classes of people has been very much increased. All the provinces, however, are not situated alike with regard to hydro-electric possibilities. In Bengal, for instance, the opinion has been expressed that it would be more advantageous for her to establish thermal power stations than hydro-stations. Similarly, on account of the scatteredness and the seasonal nature of the industries of Assam, the generation of hydro-electric power is said to be in the present circumstances uneconomic for the province.

(8) The importance of hydro-electric projects lies not so much in the facilities for large scale industries as in the provision of power for small scale and cottage industries.

These are the main conclusions that we have already arrived at in our discussion of the relation between industry and power. In this chapter the question will be discussed in a little more detail.

§ 2

EXISTING PROJECTS AND POSSIBILITIES.

In order to understand the relative position of India in the economy of the world with regard to power resources, the following table taken from a well-informed article published in the *Financial Times* (October, 1936) will prove of interest.

TABLE

Electric Power Output (in millions of kwatts.)

Country	1926	1930
U. S. A.	90,300	120,000
Germany	21,218	30,661
Canada	12,093	17,863
U. K.	11,374	16,620
France	11,268	15,339
Japan	9,313	13,957
Italy	7,644	10,079
South Africa	1,889	2,454
Australia	1,730	2,436
India	467	976

The backwardness of India in the matter of power supply as revealed in the above table underlines also the backwardness of India's industrial development. Yet it is on record that what was at the time and long since after "the largest electrical power transmission line in the world" was established on the river Cauvery in Mysore State with its generating station at Sivasamudram in 1902. The initial producing capacity of this power station was 6000 h.p. which has now increased to 25,000 h. p. Since then a number of other schemes have been taken in hand and completed in the different provinces. The Lonavla Works with which the Andhra Valley, the Nila Mula and the Konya Valley projects are linked are among the biggest, if not the biggest, hydro-electric works in India. The scheme is based on the utilization of the rainfall which is stored in three lakes whence it is conveyed in masonry canals to the receiving reservoir. The power house is at the foot of the Ghats at Khopoli, whither the stored water is conveyed through pipes, the fall being one of 1,725 ft. As the water falls from this height, it develops a pressure of 750 lbs. per square feet and with this force drives the turbines of the water wheels. At present it supplies electricity to the Bombay Cotton Mills which between them consume as much as 1,000,000 h.p., besides the Bombay Tramways and Electric Company and a number of other industrial concerns. Other projects that have been undertaken in recent years include the Mandi Project in the Punjab with an area of supply extending at present to 46,000 square miles which could be further extended if necessary. The Punjab Project finds its utility not only in supplying electrical energy for the industries but, what is more important, to meet the vast needs of the irrigation of the Province. In the United Provinces, similarly, the Ganges Canal Hydro-electric Grid is destined not only to supply electricity at cheap rates to the do-

mestic consumers and to the industries in some 90 towns but also to pump water for irrigation from the rivers and the canals and to operate innumerable State tubewells which are now being sunk in several districts of the Province. In Madras, spectacular developments have been seen in the Pykara Hydro-Electric scheme and the Mettur Project. The Pykara Scheme which was first undertaken in 1929 utilizes the water of the Pykara river which emerges from the Nilgiri Plateau. It is said to have the unique advantage of having a natural head of over 4000 ft. which is the highest in the British Empire and America. The most important scheme undertaken by the Madras Government has been the Mettur Hydro-Electric Scheme which provides for the utilization of the water from the Mettur Dam, capable of a maximum output of 60,000 h.p.—one of the largest structures of its kind in the world. Again, for the Central Provinces and Bihar, Sir William Stampe has suggested the advantage that the Vindhya Hills offer as the source of power for both the provinces. An investigation recently undertaken by the Bihar Government has indicated the practicability of their electrification project for which necessary finances have been allotted by the Government. The case of Bengal and Assam have already been referred to in Chapter XVIII. Bengal up to certain extent has analogy with the United Provinces. There are certain rivers in that Province in which the water flows down at a very low level so that it could not be properly utilized for the ordinary gravity canals. Such water, thanks to the Grid System adopted in that province, is now pumped up by electricity to high ground for flow irrigation. Will it be possible to do the same thing to the Bengal rivers? In the United Provinces power is sold either at a flat rate of $1\frac{1}{2}$ anna per unit or on a sliding scale from a maximum of 18 pies to a minimum of $4\frac{1}{2}$ pies per unit. These low rates have been of great assistance for the development of the minor industries. The adoption of a similar system in Bengal whether the electricity is generated from coal or from water is also likely to revolutionise the economic system of the Province.

The table which is given on page 312 gives the details of the installation of power in India as at 1931-32. It is taken from the second supplement to the *List of Electrical Undertakings in India* compiled by the Electrical Inspector to Government, Punjab, and reproduced as an appendix to Dr. Lokanathan's *Industrial Organization in India*

Power Capacity Installed in India.

No.	Province	Total Installed Capacity (kw)				Maximum Dem- and on Feeders (Kw)	Units sold (in Millions of Units)
		Water	Steam	Oil	Gas	Total	
1	Assam	300	...	738	...	1,038	0.85
2	Baluchistan	...	...	760.7	...	760.7	0.87
3	Bengal	1,130	164,859	1,696	...	167,685	196.5
4	Bihar and Orissa	...	56,200	4,510.5	...	60,710.5	27.0
5	Bombay Presidency	183,500	1,141	16,763	...	201,404	409.8
6	Burma	...	15,236	4,255.5	330	19,841.5	29.5
7	Central Provinces	...	4,600	2,028	...	6,628	4.6
8	Delhi	...	3,400	2,992	...	6,392	12.8
9	Madras	1,750	21,500	4,392.5	...	27,642.5	28.3
10	Military Engineer's Services	...	1,922.5	4,038	...	5,960.5	9.1
11	N. W. F. Province	290	800	693	...	1,783	0.7
12	Punjab	2,850	16,145	3,765	135	22,895	30.3
13	Railways	...	19,400.5	2,331.5	...	21,732	28.7
14	United Provinces	9,500	24,625	8,800	...	42,925	70.5
15	Indian States*	34,300	1,100	...	...	35,400	123.0
Total		233,623	330,929	57,763.7	485	622,797.7	972.52

*Exclusive of Kashmir and Jammu. Figures for Sivasamudram are up to the end of 1927-28.

§ 3

ELECTRICITY FOR THE MILLIONS.

The main importance of electric power lies in its cheapness. The modern age is called the age of electricity. In India, however, as the figures and facts quoted above amply show, the use of electricity is much too limited to be of effective use to agriculture, industry, transport and the requirements of the rural areas concerned. Truly has the "white power" been described as the perfect all-round domestic drudge to all and sundry irrespective of rank or wealth. A modern town in an advanced country is to-day equipped with electric refrigerators, electric irons, electric kettles, electric geysers and hundred other devices to make man comfortable in his home and in his office. In industries, the use of electric power is unlimited. As regards agriculture, we can do no better than quote from Mr. H. G. Wells's book on *Work, Wealth and Happiness of Mankind*. Electrical ploughs for cultivators, he points out, are used on the Continent and in America under favourable conditions. Current is conveyed by a cable wound on a drum on the tractor. But it is in the farm-house yard and outbuildings that electricity is of the greatest service. Then comes electric dairying. Milk is drawn from the cow by an electric milking machine which absorbs only one-sixth of a horse power. With a herd of fifteen cows the saving in time is one and a quarter hours a day. The milk is now cooled in an electrically operated refrigerator, the cream is separated in an electrically driven separator, and churned in an electrically driven churn. The utensils are sterilized in an electrically heated chamber. If the cow's drinking water is warmed, she yields more milk.

In the barn, electricity is more convenient for driving the various choppers, cutters, crushers and mixers, machine for corn shelling, husking and shredding, grain cleaning and grading, hoisting and elevating, than an oil engine. The tendency is to use separate electric motors for each machine, so that overhead shafting with pulleys and belts is avoided. Out of doors, electrical energy is used for pumping, including domestic water supply and irrigation. Add to these such household utensils as cookers, kettles, irons, vacuum cleaners, toasters and the manifold uses of electricity on the modern farm become even more impressive.

In India, the same thing might happen under proper direction. Electricity for the millions should be the new slogan. The United Provinces have already led the way. The vast system of tube-wells in that Province were formerly run by oil engines which were both difficult and costly to maintain; naturally their uses were limited. Repairs were difficult in remote villages and that added to the difficulty of the extension of the system. Grid electricity now supplies cheap power at the side of each well at an average cost of 9 pies per unit for 3000 hours' work. It has also enabled irrigation to be extended to more arid and distant districts and large areas which were formerly irrigated for canals are now irrigated for tube-wells. Canals themselves are sometime fed by tube-wells sunk along the lines of those canals and the tube-well water adds to the total supply making it possible to distribute surplus water to distant places. The grid system has already supplied power through rural network of 11000 volt branch lines to several hundreds of private and zemindary tube-wells at one anna per unit and the number is increasing fast. The cultivator gets power at one anna per unit. He can now utilize it to start various minor agricultural industries; this has given additional value to his crops and the cultivator is doubly benefited. It may be mentioned in this connection, having regard to the difficulties experienced by Assam, that the United Provinces system charges a seasonal tariff for such agricultural industries where the demand varies with the seasons, *e.g.*, cotton ginning, sugar cane crushing, *gur* making, oil crushing, etc. The question would be presently considered whether the seasonal industries of Assam could not be brought within the scope of an inter-provincial grid system. Again, to those who object that the introduction of electricity in the rural areas of India is limited by the fragmentation of the holdings may be referred to the example of New Zealand where not only is the land as much fragmented as in India, if not more, but where there are drastic laws which operate against the consolidation of such areas; yet in that country the aid of electricity has been called to assist cultivation with considerable success.

The whole thing, of course, depends upon the cheapness of the supply. It has already been indicated that it is by no means absolutely clear that hydro-electric power is likely to be cheaper than thermal electricity under all circumstances. The cost of hydro-electric power must be calculated with reference to the seasonal flow in the

Indian rivers, the difficulties of storage, long transport and transmission lines and the like. In those provinces which are situated near the coal areas there seems to be a *prima facie* advantage in obtaining electricity from coal. Hydro-electric power operating on the grid system must be related to a sufficient load if it is to be cheap; for this reason there must be definite evidence of the likelihood of a large consumer demand following the supply of hydro-electricity supported by accurate facts regarding rainfall data and difficulties of construction. The fact must also be taken into consideration that hydro-electric installation is not only more costly but takes longer time to construct so that the interest charges are necessarily higher and in some cases may even swallow up the anticipated savings on maintenance charges. Again, particularly in a country of such vast distances as India, the headworks of hydro-electric power installation must necessarily be situated at some distance from the areas of supply and there is bound to be some loss during transmission over such long distances so that ultimately a smaller percentage of units is likely to reach the consumers than in the case of centrally located power station. All these facts only warn us against accepting too complacently the theory that electricity generated from water is necessarily cheaper than electricity generated from coal.* Secondly, it only points to the fact that the hydro-electric installation in the

*Mr. B. C. Roy of the University Science College gives an interesting calculation of the amount of electricity which may be generated from coal gas and if all the coal that is at present wasted (see Chapter XIX, §2) is subjected to carbonization or gasification. The amount of coal gas that may be obtained has been estimated to be 47·25 (or roughly 45) billion c. ft. and producer gas 150 billion c. ft. Mr. Roy then makes the following calculations:

Electricity from Coal Gas :

45 billion c. ft. per year
 or 150 million " " " day (taking 300 working days)
 or 6 " " " " hour
 1 kw/hr. may be generated from 40 c. ft. of the gas so that 140,000 kw/hr. may be generated from 6 million c. ft. of the coal gas.

Electricity from Producer Gas :

300 billion c. ft. of the gas per year
 or 1 " " " " day
 or 40 million " " " " hour
 1 kw/hr. may be generated from 200 c. ft. of the gas or 200,000 kw/hr. from 40 million c. ft. of the producer gas.

[Carried to next page.]

different provinces of India must be carefully planned so that on the one hand, the losses, if any, may be minimized, and on the other hand, needless power stations might not be established where there might be definite possibilities of a cheaper alternative for the supply of power. Subject to these safeguards, and in view of the fact that India is very much backward at present in the matter of the supply of electric power compared to the Western countries, it is possible to anticipate a future of uninterrupted progress of the electrification projects that India has already undertaken or is likely to undertake in the near future.

§ 4

ORGANIZATION.

The foregoing observations on the power resources of India lead to certain conclusions. At present, the question of organizing the power resources of India is proceeding on a provincial basis. In other words, each province is now trying to develop its power resources independently of other provinces. There is no doubt that up to a certain extent each province has its own problems and that the precise manner of development will necessarily vary locally according to the different resources of the provinces, such as minerals, water for irrigation, types of crops, means of transport, accessibility to large markets, nearness to coal areas or to water power and the degree of economic development reached. Yet sufficient has been said above to indicate the necessity of co-ordination in the development of power whether it is for the purpose of industrial development or to assist in the improvement of agriculture or for developing the rural areas of the country. We have found that in the installation of the grid system lies the future line of development of the power resources of the country. The success of the grid system will depend upon the ability to provide a minimum load and in some cases, as for example, in the case of Assam, the minimum load may be difficult to ensure. If, however, Assam works in co-operation, for instance,

Continued from the previous page.]

The total amount of electricity which may be generated is thus roughly 350,000 kw/hr. Making further calculations, he finds that electricity generated in this way may be supplied for industrial purposes at 6 pies per unit or roughly 35 units per rupee. *This means that the country is losing Rs. 10,000 per hour through lack of proper organization and sheer negligence on the part of the mine-owners and of the provincial governments.*

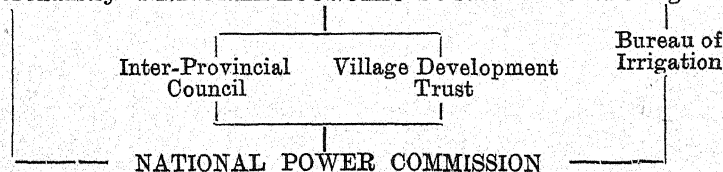
with Bengal, if possible, a scheme of hydro-electric development advantageous both for Bengal and Assam may be devised. Given such inter-provincial co-operation between Bengal and Assam, the character of the problem will also have to be reviewed. Assam provides considerable advantages for hydro-electric development whereas in the case of Bengal the advantage seems to lie in the direction of generating power from coal. The actual choice of the source of power, whether coal or water, will thus depend upon the possibilities of such co-operation. Again, as Sir William Stampe, formerly Chief Engineer, U. P. Irrigation Department, had pointed out in course of his address to the Central Irrigation Board in November, 1937, there is one important factor which could be of mutual assistance to the development of cheap power in the three provinces of Bihar, Central Provinces and the United Provinces—that is, the water resources of a neighbouring State. If the demands, he pointed out, from the Central Provinces, and possibly from the south-west corner of Bihar, could be co-ordinated with those of the United Provinces, a case could be made out for development on a more economical scale in the Vindhya to the advantage of all.

It may, therefore, be suggested that a National Power Commission should be set up on an inter-provincial basis to co-ordinate and assist in the development of the power resources of the country on an effective as well as an economical basis. The Board should be composed of experts presided over by an authority of international reputation with experience of large installations in foreign countries. There should be representation also of industrial interests and of agriculture. The interests of rural development should be represented by a representative of the Rural Development Trust. It should also be necessary to provide representation for the bigger of the electric supply concerns already operating in the provinces. Lastly, there should be representation of the railway interests, for the support of the railways will be essential for the successful operation of any scheme based on the Grid system.

The Commission, as suggested above, should be vested with executive authority necessary to implement its recommendations. To that extent there should be nationalization of control; if any private electricity concern refuses to fall in line, it should be purchased outright by the State. If the Commission were vested merely with advisory functions, the essential point

of the scheme will be frustrated. The procedure should be that where a particular scheme is intended for a single province, the services of the expert personnel of the Commission should be utilized mainly for devising the scheme for the province concerned, but the main responsibility for carrying it out should develop on the Provincial Government and their staff, helped with such finances as it can set apart for the purpose. Where, however, a scheme is intended or designed to benefit two or more provinces, the Commission would not only lay down the scheme itself but make the necessary arrangements for the execution of the scheme including the determination of the share of the cost to be charged to each of the provinces concerned. For this purpose, the Commission would be competent to call upon the provinces concerned, subject to the right of appeal to the Inter-Provincial Council, to contribute a sum annually to the Commission determined in accordance with just and equitable principles. The Commission, of course, before fixing up any particular scheme, must collect all the relevant data possible from the provincial governments concerned. It would, indeed, be competent for the Commission to set up a joint board of the provinces concerned to whom it may delegate some or all its powers in relation to the working of that particular scheme. In short, the installation of a central authority for the development and mobilization of India's power resources is inherent in the planning of the economic system of the country. The authority should work as subject to the general authority of the Inter-Provincial Council in all matters concerning two or more provinces, the relations between the two being decided by an Act of the Federal Legislature. The Commission should also have to work as a wing of the National Board of Industries in all matters affecting the industrial development of the country and as a wing of the Bureau of Irrigation* in matters relating to agricultural improvement. The position of the Commission can thus be diagrammatically illustrated:

Board of Industry—NATIONAL ECONOMIC COUNCIL—Board of Agriculture



*See Chapter XI, § 3-4.

The diagram shows the important fact that the development of the power resources of the country is not merely a problem of agriculture or of industry, but of the general welfare of the masses of the country in its broadest sense. Having regard to its importance, it should be one of the first tasks of the National Economic Council to proceed immediately to the establishment of the Commission as suggested in this section. Already a vast mass of useful data have been collected by the different provincial governments concerned. Hydro-electric developments have also progressed and are progressing at a rapid rate. The Commission would co-ordinate this development where possible and quicken the pace of the development.

CHAPTER XXII

INDUSTRIAL LABOUR

§ 1

GROWTH OF INDUSTRIAL POPULATION.

A policy of industrial expansion for India would be incomplete unless adequate provision were made for the protection of the interest and welfare of labour. Little attention has, however, been paid hitherto to this aspect of industrial development. The reason is that while in the West, the problem of labour has become one of the most pressing of problems, deep alike in its economic as in its political significance, in India, on account of comparative backwardness of the industries themselves, and the relative paucity of organized industries, and with the predominantly rural bias of the economic system, the problem of labour still ranks as one of secondary importance. Yet, it would be a grave mistake if we plumped for industrial expansion at all costs without any care for its reactions on the economic life of the country in general or on the mass of the population.

Writers on Indian economics have laid stress on the fact that the great bulk of the Indian population have not taken kindly to factory life, and that the majority of the industries in the country are of the cottage or the "domestic" type. This, in itself, is, perhaps, a protection against a too rapid industrialization of the country drawing within its baneful meshes the labouring population who yet alternate between agriculture and industries or the village and the town. That there have been several undesirable effects of this state of things on industries is undeniable; a floating labour population and a heavy roll of absentees do not encourage employers to initiate or develop welfare schemes which require considerable outlay, nor do they add to industrial

efficiency. This, however, cannot be a permanent feature of the situation. It is already evident that on account of a combination of factors, a permanent industrial population is fast growing up—a population that has to depend on the wages earned in the industries and whose fortunes are intimately bound up with those of the particular industries in which they are employed. It is this fact that is responsible for the emergence of what is known as the labour problem in our country. If the problem is attacked from now, we may yet steer clear of those pitfalls and that critical situation which accompanied the Industrial Revolution in Britain and elsewhere.

§ 2

THE WHITLEY COMMISSION'S FINDINGS.

A full discussion of the labour problem will take us far beyond the limits of the present chapter. The Royal Commission on Labour in India gives a full survey of the position and I shall content myself here with a review of the salient points of the situation and indicate, in the light of the findings of the Commission, what the main lines of a rational labour policy ought to be. The figures given in their Report together with such statistical references as are available in the Census Reports for India will form the basis of our observations. These figures, it must be remembered, refer only to organized industries. and where they refer to others, their accuracy is not beyond question. It is a pity that the Industrial Census which was taken in 1911 could not be repeated and improved upon in 1931 at the time that the General Census was taken. Dr. Hutton puts forward the plea of retrenchment as an excuse. Our own reply would be that it was a most unwarranted measure of economy.

A large part of any statistics of organised labour that could be prepared would necessarily be imperfect and conjectural. According to the figures given by the Labour Commission, the total number of factories in India, perennial, seasonal, as well as partly seasonal, coming under the Factory Act, were 7,153 and the total number of operatives at these numbered 1,553,169. These figures relate to 1929 and include only the organized industries. Dr. Hutton thus attempts to give a full picture of the situation in the Census Report for India: "The total India figure for persons occupied in plantations, mines, industry and transport in 1921 was 24,239,555, of whom only 2,685,909 were employed in mines, plantations or organised industrial

establishments having 10 or more employees. The total figure under the three same heads in 1931 amounts to 26,187,689 and if labour in similar establishments is in the same proportion, it will now number 2,901,776. Figures of the daily average of persons employed indicate that it has increased during the last decade at the rate of about 30 per cent, in which case it will now number 3,500,000. Probably 5,000,000 may be fairly taken as the figure of organised labour in India in 1931, as the figure of $3\frac{1}{2}$ million represents only the daily attendance in registered factories." In other words, assuming this generous estimate of India's labour population, it does not come up even to $1\frac{1}{2}$ per cent of the whole.

As regards the quality of this population, there is no doubt that a large part of labour in India is of a floating and migratory character. Thus though the Whitley Commission controverts the popular view that the Indian factory worker is primarily an agriculturist, they agree that "Indian factory operatives are nearly all migrants", that a large majority of them are all "at heart villagers", and that "they have had in most cases a village upbringing, they have village traditions, and they retain some contact with the villages". Many of these employed in the weaving sheds of textile factories, the tanneries, the railway workshops and other scenes of urban industry are men "who look back rather to village crafts than to village fields". But agriculture, they add, has naturally supplied the bulk of the recently established industrial population. This more often than not signifies an indirect association with agricultural interests in the village, and which in some cases is no more than a contact with the village home. For this, at any rate, is well-known beyond dispute that those who have no village ties and look upon the city as their home are only a small percentage of the total labour force. The Census of India is more specific, for it is recorded that "factory labour is largely recruited from younger sons for whom there is no land or need at home, village servants for whom there is no work and whom the village is unwilling to maintain, cultivators in debt who need cash to pay off a mortgage, ne'er-do-wells who have attracted too much attention to themselves at home, and women frequently of equivocal status." We need not agree with every detail of this graphic description, but that the general lineaments of the picture are substantially correct would be borne out by every experienced investigator of the subject.

That a large majority of these labourers would be unskilled and untrained is inevitable. Nearly the whole mass of industrial labour is illiterate, a disability which is reflected in wages, in health, in productivity, in organization and in the standard of living. Here we arrive at the real centre of the vicious circle. Illiteracy produces inefficiency, inefficiency low wages, low wages an unhealthy standard of living, and an unhealthy standard of living is a condition favourable for the perpetuation of illiteracy. Again, illiteracy is the cause of the lack of organization, and want of organization leads to exploitation and low wages, to sweated labour, and the vicious circle continues. Few factories make provision for the training of their operatives for which we can hardly blame the employers. They are ordinarily not actuated by motives of social service but are actuated by pecuniary gain and they would not willingly incur an outlay the return on which is at best highly problematic. Absenteeism, and the rapid turnover of labour do not encourage long-period investments. Naturally, though a few factories make provision for the education of half-timers and a few others have adopted a system of apprenticeship (as at the Tata's, in the Railways and at the Ordnance Factories), the general position is one of apathy and neglect.

Faced initially with an attitude of antipathy and suspicion, the conditions in the midst of which the average factory operative works are far from happy. The Factory Acts have tried to remove some of the most glaring defects of the situation but still the position of the employee *vis-a-vis* the employer cannot be watched too carefully. In the case of the establishments that do not come within the scope of the Factory Acts, the situation is more depressing. In some of these establishments, children as young as 5 years of age are employed "working without adequate meal intervals or weekly rest days, and often for 10 or 12 hours daily, for sums as low as 2 annas in the case of those of tenderest years." The factories themselves are often merely slum buildings occupied for the purpose. No power is used in these establishments and the labourers are employed in such wise that they can easily be split up into batches of less than 10 working separately, thus defeating the relief contemplated in Sec. 2 of the Factory Act.

§ 3

FAMILY BUDGETS.

No all-India figures are available of the income or the schedule of expenditure of an average factory operative belonging to different industries. A few facts gleaned from the figures compiled by the Whitley Commission will, however, make an interesting study.* The compilations are based on published studies, on the results of cases coming under the Workmen's Compensation Act, and on the results of investigations carried out for the Commission. The published studies relate to the investigations of the Bombay Labour Office in 1921, 1923 and 1926 on the wages in the Bombay, Ahmedabad and Sholapur Mills, reports of the Indian Jute Mills Association, Family Budget enquiries in Bombay, Ahmedabad and Sholapur with similar inquiries conducted on behalf of the Commission in other centres. Investigations into family expenditure conducted by the Bombay Labour Office in 1925 and 1926 have also been drawn upon. The figures disclose a high relative rate of wages for operatives in jute mills followed closely by that earned in the textile mills. The Bombay Labour Office figure for weavers attending 4 looms is Rs. 2-14-2 per day. In the engineering and metallurgical industries, there are great variations in rates and earnings due to the variety of occupations and great differences in skill. Masons earn anything between Rs. 30 and Rs. 70 per month, carpenters and blacksmiths between Rs. 35/40 and Rs. 75, and fitters and turners between Rs. 40 and Rs. 80. The average rate in seasonal factories is about Rs. 15 for men and Rs. 10 for women per month. That is also about equal to the amount earned by a coal cutter. The rate for unskilled labour is influenced more or less by the prevailing rate for agricultural labour in the neighbouring area, and may be as high as Rs. 20 or Rs. 25 as in Bombay or Burma respectively or as low as Rs. 10 in some other areas.

So far as family income and expenditure are concerned, the

* As the Commission observe: "We can realise the workers' chief difficulties, we can distinguish the factors that create them, and we can point to directions along which much can be done to mitigate them. But a quantitative analysis is impossible. Even to such an elementary question as the extent to which the workers' earnings suffice to provide for their necessities, no precise answer can be given." Report, p. 196.

general poverty of the working class is brought out in greater relief by the relevant statistics. Family budget enquiries made in Ahmedabad and Sholapur have disclosed that over 80 per cent of the families have an income of Rs. 20 to Rs. 60 per month, 25 per cent having an income of Rs. 40-50 per month. The average family earnings are Rs. 25 to Rs. 30 per month, being slightly higher where women are allowed to work as in Bombay. For an average family of four, a recent investigation at Ahmedabad estimates the monthly expenditure at Rs. 29-5-8, while in Sholapur, for a family of 4.57 persons, the corresponding figure is Rs. 37-13-11 per month. The figure for Sholapur includes interest on debt (Rs. 2-8-4) but no repayment of principal while that for Ahmedabad excludes both. No provision is made either for education or, apparently, for medical attendance, unless it is included in the term "Miscellaneous." Food, clothing, rent, fuel and lighting account for 82 per cent out of a total expenditure in Sholapur and 85 per cent in Ahmedabad. While it is remembered that the rate of wages is relatively higher in these places, we are struck by the fact that in other industrial centres almost the whole of the wages must be spent on the primary necessities of life. When it is remembered, further, that each industrial worker carries a load of debt amounting, on the average, to three months' wages, the situation may well be described as desperate.

§ 4

LABOUR WELFARE.

The poor nominal wages earned by a factory worker is seldom relieved by the provision of other amenities or facilities. Housing facilities except in a few centres or in individual cases are practically unknown, the *Bustees* of Bengal, the *Chawls* of Bombay, the *Cheries* of Madras, the *Hatas* of Cawnpore, the *Dhowrahs* of the mining areas of Jheria and Asansol are dens unfit for human habitation and yet housing, for want of better accommodation, the large majority of the working classes. The investigation made by the Bombay Labour Office in 1921-1922 showed that 97 per cent of the working classes were accommodated in one-roomed tenements with as many as 6 to 9 persons living in one room. In Madras city, 25,000 one-roomed tenements sheltered 150,000 persons or one-fourth of the population, "The general shortage of houses is so acute," write the Labour

Commission, "that the many hundreds of workers are entirely homeless and live on the streets or on the verandahs of godowns in the vicinity of the harbour." In Ahmedabad also, 92 per cent of the houses are one-roomed ; "they are badly built, insanitary, ill-ventilated and over-crowded." As the Commission rightly remark, the same tale of squalor could be told of other towns and industrial centres. There has, no doubt, been some improvement in recent years through the activities of individual mills, Improvement and Development Trusts, municipalities and private associations but the squalid surrounding in the midst of which the average workman lives is still the most prominent characteristic of his material existence.

If housing facilities are meagre, other amenities for the promotion of the health and welfare of industrial classes are practically *non est*. Employers like the Tata Iron and Steel Works, the Angus Jute Mills or the Buckingham and Carnatic Mills who have been pioneers in welfare and health activities are honourable exceptions that prove the general rule. Modern humanitarian activities are marked by a scientific approach, of which there is a total absence in this country so far as the industrial sphere is concerned. Questions of dietary, industrial fatigue, child welfare, public health and general industrial hygiene are seldom regarded as an obligation of the industry or even of the community. The Government, of course, labour under a perpetual want of funds. The chief responsibility for such work must, therefore, necessarily fall upon the industry, the public, and the local authorities. For the speedy assumption of such responsibility two things are necessary : an enlightened public conscience and proper organization of labour.

§ 5

TRADE UNIONS.

This leads to the question of Trade Unions. Many of the disabilities under which labour suffers in this country are due to the lack of organization and unity among the labourers.

Trade Unionism in India is yet in an incipient stage. In 1921, membership of German Trade Unions exceeded 13 millions, British Unions 8 millions, American Labour Unions 5 millions, and Indian Unions barely 500,000, while the total population of this country

exceeds that of the three other countries combined. It was only in 1918 that the first regular Association was founded in India—that was in Madras, and the All-India Trade Union Congress was founded in 1920. Labour leaders have since sat at International Labour Conferences and other international meetings, have been nominated as members of the Central and the Provincial Legislatures, and have participated in the proceedings of the Indian Round Table Conferences that met in London during 1930-32. The first Trade Unions Act was, however, passed only in 1926 and even now statistics relating to labour movement are very imperfect. Here also, in the collection of statistics, Bombay leads the rest of India. A study of the figures published by the Bombay Labour Office reveals a heavy concentration of the unionist members in a few Unions. According to the figures edited by Prof. K. B. Madhava, we find that most of the Unions are poorly provided, there being only 4 Unions in Bombay whose receipts came up to Rs. 1,000 or above.* The rates of subscription vary from 2 annas a month to 8 annas. The types of Unions also vary greatly including *ad hoc* Unions and strike committees. Some are non-descript, and in any case, there is no checking of membership or of the subscription list. At the end of 1929, the All-India Trade Union Congress had 51 Unions affiliated to it, while 87 Unions with a total membership of 183,000 had been registered under the Trade Union Act of 1926. It is admitted that the Unions so registered form a minority of the total number of Unions though probably the majority of the "vigorous organizations" have been so registered.

History shows that labour organizations have everywhere had to fight for their rights and India is no exception. Trade Unionism was illegal in Britain till 1871. In India, the fight is not yet over. The 1926 Act is a mere palliative and a drastic revision of the same is called for. The application of the provisions of the Act is confined to those Unions which seek registration under it, but registration does not mean recognition, though it "has led in many cases to recognition." Political funds, political influence, antipathy for "outsiders", and the new-fangled idea of every labour dispute of any magnitude being engineered by communistic leaders have prevented healthy contacts between the employer and the employee, a

* See a paper contributed by Mr. K. B. Madhava to the Tenth Conference of the Indian Economic Association.

contact which it should be the aim of trade unionism to bring about and extend. If communism gains any influence among the workers of India, it will be due to the failure of the employers to lead the movement along right channels. But it would be wrong to suppose that the mere fact that a Union or a labour leader associated with the Union is in communication with or has sympathy for labour organizations in other countries or receives help from or gives help to such organizations is evidence presumptive of the communistic character of such a Union or labour leader. Further, those who fight shy of the political funds or the political complexion of labour unions in this country will do well to remember that even in the United Kingdom, labour is a recognized political party, that it has formed the Government of the country on two occasions, that the first National Government is presided over by a Socialist Prime Minister. The representation of labour at the Round Table Conference and in the various legislatures in the country also invests the working class with a political significance. It must, of course, be made clear that, for obvious reasons, the political funds of a Trade Union should be kept distinct from its general funds.

§ 6

TRADE DISPUTES IN INDIA.

The general poverty and weakness of trade unions in India are reflected in the fact that the large majority of the strikes have been failures. The failure of a strike may cause satisfaction to the capitalist employer and to the shareholders of the business concerned, but it has also its dark side in so far as it raises undesirable reactions on the course of the labour movement in the country. "Strikes are merely the symptom", as the Whitley Commission pointed out, "most evident to the public of underlying discontent." The failure of a reasonable strike adds to that discontent and, by robbing labour of its only effective remedy either forces the movement underground or results in a further deterioration of the position of labour. During the years 1921-30, there were as many as 1857 stoppages of work entailing a loss of 11,47,00,000 working days. Of these disputes, 976 related to the question of pay or bonus and 425 to the question of personnel, mainly of reinstatement or dismissal of one or more of the employees while only 74 were concerned with questions of leave or hours of

work. Two-thirds of the strikes have been classified as unsuccessful. Figures compiled by Professor Madhava (1926) show that in Britain about 18 per cent of the strikes were unsuccessful as against two-thirds in India and over 70 in Bombay. The followings tables bring the figures up to 1936.

TABLE.

General Effects of Disputes in India, 1929-36.

Year	Number of Disputes	Number of workers involved	Number of working days lost
1929	141	531,059	12,165,691
1930	148	196,301	2,261,731
1931	166	203,008	2,408,123
1932	119	128,099	1,992,437
1933	147	164,938	2,168,961
1934	159	220,808	4,775,559
1935	145	114,217	973,457
1936	161	169,029	2,358,062
Total	1,186	1,727,459	29,104,021

Causes of Disputes

Number of disputes connected with questions arising over—

Year	Pay	Bonus	Personnel	Leave and hours	Other reasons
1929	54	2	55	3	27
1930	69	4	34	7	34
1931	69	2	39	20	36
1932	68	3	32	2	14
1933	95	2	20	5	25
1934	107	1	24	6	21
1935	91	2	21	10	21
1936	96	1	24	6	34
Total	649	17	249	59	212

Results of Disputes

Number of disputes in which workers were—

Year	Successful	Partially successful	Un-successful	In progress
1929	31	27	80	3
1930	36	22	89	1
1931	23	42	99	2
1932	14	27	74	3
1933	20	23	97	6
1934	32	25	100	2
1935	25	29	87	4
1936	31	43	76	7
Total	212	238	702	28

It will be seen from the tables given above that pay and personnel account for the largest number of disputes throughout the period. This shows that the strikers have developed a considerable sense of class solidarity and also that one of the main questions facing the government *vis-a-vis* the labour movement is the raising of the general standard of wages. Some of the strikes during the period were quite large. The most important strike during the period was the general strike in the Bombay textile mills in 1936 involved 109,000 workers and resulted in a loss of over 6,700,000 working days. Incidentally, it provided the primary justification on which the machinery provided by the Trade Disputes Act of 1929 was set up. In 1934, the Bombay Trade Disputes Conciliation Act was passed which has recently been strengthened by a further Act passed in 1938. Independently of the Indian Trade Disputes Act and the Bombay Act, a permanent arbitration board consisting of one nominee of each of the Millowners Association and the Textile Labour Association has been set up at Ahmedabad since 1920.

One or two facts may be noticed in this connection. Many of the strikes affected workers belonging to more than one province. In 1933 one dispute extended to 5 provinces while the B. N. R. strike which began in December, 1936, was gradually extended to include the provinces of Bihar, Bengal, Central Provinces, Madras and Orissa. This being so, it is essential that there should be means of conciliation on an interprovincial basis. Compulsory reference to arbitration where the labourer and the employer may sit across a table and be enabled to know each other's point of view more quickly than by prolonged correspondence will be regarded as a move in the right direction. But while provincial boards of conciliation and arbitration should certainly be set up functioning under the general direction and guidance of the Minister of Labour, there should be, as suggested above, an interprovincial authority for the purpose of settling disputes which extended to more than one province. Though the Act of 1929 penalises lightning strikes, strikes in certain public utility services and the general strike, it does not provide any speedy or convenient method or means for settling industrial disputes. The setting up of a machinery of conciliation to which all disputes must be referred in the first instance may be supplemented by the establishment of a permanent Industrial Court to which appeals from the arbitration boards will

lie. The justiciability of a dispute should, however, be clearly defined.

§ 7

SCOPE OF FACTORY LEGISLATION.

The history of factory legislation in India shows that the protection afforded to industrial workers has been continuously extended since the first factory law was passed in 1888. The scope of the Factory Acts has been extended from time to time, mainly in three ways—by regulation affecting specific classes of workers, by regulation affecting specific classes of establishments and by powers given to the Provincial Governments to include under such regulation smaller places of a similar kind. In most cases, the law affected the factories using only power machinery but in not a few cases factories which do not use machinery have also been notified either on account of the large numbers employed or because of the danger of the processes or for other reasons. Yet there are even now large numbers of industrial establishments which cannot be brought under the scope of the existing laws relating to factories. The Royal Commission on Indian Labour estimated that the number of factories which employed more than 9 and less than 20 persons is not less than 2000. Though the Provincial Governments have the power of applying the Factories Act to any such factory they do not do so mainly on account of the inadequacy of the staff at their disposal for inspection and other practical difficulties. Further, their power of applying the Factory Act is limited to applying the Factory Act *in extenso* and it was in view of this fact that the Labour Commission recommended that the Provincial Governments should be given authority to extend any selected sections of the Act other than those automatically applied. The recommendation was intended to apply to factories using power and employing not more than 10 but less than 20 persons. Even in the case of factories employing less than 10 persons the Commission recommended that the restrictions should apply wherever there was reason to believe that the conditions prevailing constituted a danger to life or limb. They also recommended that the criterion for determining the number of workers employed in such places should be the aggregate number employed for any part of the 24 hours and not, as at present, the

number employed at any given moment, that is, employed "simultaneously."

So far as the factories employing no mechanical power are concerned, the Commission pointed out that there were many such factories that did not employ any mechanical power but employed large numbers of workers. As an example they referred to the mica-cutting and splitting industry which was wholly unregulated but in which the units were not only often large, going up to as many as 800 workers, but which gave employment to a large number of children. Similarly, in the industries of wool cleaning, shellac manufacture, *bidi* making, carpet weaving, tanneries, etc., conditions obtained showing the evils of non-regulation. In some cases there is over-work, in others employment of young children and women under undesirable conditions, and in all there is an absolute disregard of the conditions of health and sanitation for the workers.

While there has been a progressive decline in the number of children employed in the regulated factories, the average number of children employed in the factories being reduced from more than 13 in 1922 to less than 3 in 1932, there is no record of the number of children employed in the unregulated factories. Yet the long hours of work to which the child is subjected in these factories, the poor payment which is made to him, in some cases amounting to not more than 2 annas per day, and the extremely unhealthy environment in which he works—all these constitute a persistent challenge to the liberalism of the present century, a challenge that requires to be immediately met. Even children of 5 or 6 years of age are employed without compunction in some of these industries. The following description of the ways in which the unscrupulous employer may circumvent the law is thus given by a careful student of labour conditions in India :

"In the case of the regulated factories also, even after the introduction of certificate system regarding age and health, the abuse of employment of boys under-age is not out of practice. As there is no whole time Surgeon to examine the boys, there is little check on the willing abusers. The recent token system is a nominal proviso which protect more the abusers than the workers. The token of a certificated young worker may be placed on an uncertified child which cannot be easily detected. The multiple shift system affords another advantage to the employers to cross the penalty zone being unscathed, because

they can easily employ the same batch of child with a little variation and combination in it for a longer period than is prescribed by law." *

Again, the law relating to women labour in India need to be tightened up. The first law relating to women labour was passed in 1891 and it was successively improved by the Acts of 1911, 1922, 1923 and 1934. The Act of 1891 prohibited night work for women, the Acts that were passed subsequently afforded protection to women in different directions. The Act of 1911 for instance provided that women and children should be prohibited from working during the cleansing of dangerous machineries ; it also restricted their employment when the cotton-openers were at work. The Act of 1922 afforded an additional protection to the women employees and prohibited employment of women and persons under 18 years in zinc or lead works, in the manufacture of alloys containing more than 10 per cent lead or mining or pasting in connection with the manufacture or repair of electrical accumulators. The Act of 1934 forbade the employment of women and children for the purpose of cleaning, or oiling any part of the machinery of a factory while that part is in motion under power or in any work which is to be performed between moving parts or between fixed or moving parts of any machinery which is in motion under power. The employment of women and children in the proximity of cotton-openers has also been prohibited and under section 33 of the Act. the Provincial Government have been empowered to make rules relating to the health and safety of the workers in hazardous operations.

The main protection for women labour relates, however, to the question of maternity benefits. The Washington Convention of 1919 recommended the following benefits for women workers : six weeks' leave of absence before confinement, on production of a medical certificate stating that it will probably take place within six weeks ; six weeks' leave after childbirth ; no dismissal from work during the period of legal absence ; together with cash benefits and free attendance by a doctor or a certified midwife, the fund for the purpose being created either by public charity or by a system of insurance. Since this Convention, different countries have adopted laws intended to implement the recommendations of the Convention. In Great Britain, insurance is compulsory for women workers.

* P. K. Mukherjee ; *Labour Legislation in British India* (1937), p. 24

Married women get greater privileges than the unmarried by receiving double benefits. Women are prohibited from working for a period of 4 weeks after childbirth. Under the National Health Insurance Act of 1924, compulsory sickness insurance has been introduced in England. A directly insured person receives an allowance of not less than £ 2, whether married or not. A married insured women, or a widow giving birth to a posthumous child, may draw from her husband's insurance or from her own, a second confinement allowance of £ 2. The cost of granting a medical certificate is always deducted from the allowance. In case the woman employed becomes sick in the post-natal period, she would receive not less than 12 s., a week for 26 weeks under the sickness benefit system, and if the incapacity continues for a longer period, then she would receive 7s. 6d. per week under the invalidity benefit system. Similarly, France, which has shown the utmost consideration for the working mother has adopted a number of laws and regulations for the relief and protection of the mother. The beneficiaries of the French scheme are, however, usually limited to those whose wages do not exceed 1500 francs and are liable for compulsory insurance but cover a large variety of workers including women teachers in public schools. The French law further lays down that work may not be resumed until a medical certificate is obtained stating that the mother has recovered. Besides the grant of the necessary ante-natal leave of absence, there is also provision for nursing allowance and maternity allowance which are proportionately raised in the case of multiparity. The nursing allowance is afforded for a period of six months amounting from 15 to 75 francs of which the State pays three-fourths and the Department and Municipality the remaining one-fourth. Italy heads the list of all the countries in point of the number of laws or decrees regarding women labour. Japan also has not neglected the interests of women labour and has passed a number of laws governing their health and interests. In that country there is a compulsory insurance system which covers persons employed in undertakings within the meaning of the Factories' Act and the Mines' Acts excepting the salaried employees of administrative offices whose annual salaries exceed 1200 yen.*

*These facts are taken from P. K. Mukherjee : *Labour Legislation in British India* (1939), pp. 40-65.

If the facts which have only been very briefly discussed above are considered with reference to India, it will be clear that we have not done our duty either by the children or by their mothers. The institution of a Labour Control Board will be proposed presently to provide the planning authority with an organization for the purpose of giving an impetus to the Provincial Governments and of framing a uniform scheme of social insurance and meternity benefit which can be applied by the different provinces with suitable modifications. It is essential that the Board should also apply itself to the question of bringing the large number of unregulated factories within the scope of the Factory Act. The practical difficulties of which the Provincial Governments had complained before the Labour Commission should not be regarded as insuperable by an authority which is specially created to overcome them. A Labour Charter is the first essential necessity in a national labour policy. No difficulty, however great, should be allowed to deter the authority concerned in framing a suitable scheme of relief and protection for the toiling millions of the country.

§ 8

THE WORKERS' CHARTER.

It shall be the duty of the planning authority to create a substantial labour platform which, instead of undermining the capitalistic structure, will, on the country, strengthen the economic framework of the country. The first desideratum of the situation is the adoption of a minimum wage convention. The minimum wage is not of course a fixed idea but it should be made to vary from time to time, but not too frequently, with long-period changes in the price level. The co-operation of the statistician and sociologist should be sought to lay down an effective labour standard for the country. What is aimed at is not an absolute wage standard for all industries but a minimum wage contract for all under the control and authority of an Industrial Council. The minimum wage must not only provide for adequate food, clothing and shelter to the labourer and his family but also leave a surplus sufficient to enable him to meet his medical expenses, if any, the cost of the education of his children and to provide for a reasonable amount of recreation.

The workers' charter will not be complete without a full and adequate provision for social insurance. Sickness, invalidity, oldage

—these are the social risks which in the interests of the society should be insured against. The scheme should include, for the women, additional benefits in the event of maternity. Even in western countries, social insurance has come at a rather late period of history and even now the movement is not complete. Dividing social insurance into the four well-known categories of sickness, accident, invalidity and unemployment, the following dates will prove of interest* :

A. *Sickness* :—Germany (1883), Italy (1910, maternity only), Great Britain (1911), Russia (1912), Japan (1922), France (1927), Italy (1927, against tuberculosis only).

B. *Accident* :—Germany (1883), France (1897), Italy (1904) and Russia (1912).

C. *Invalidity* :—Germany (1889), Great Britain (1911), Russia (1922), Italy (1923), France (1927).

D. *Unemployment* :—Great Britain (1911), Russia (1922), Italy (1923) and Germany (1927).

The International Federation of Trade Unions in their Congress held at Brussels in 1933 considered compulsory social insurance to be the best way of protecting the working classes effectively against occupational and social risks. As regards the cost of social insurance the Federation proposed that with regard to sickness, maternity, invalidity, old age and unemployment, the funds for insurance are to be derived either from the contributions of the employers and insured persons *plus* grants from the government, or exclusively from the State by taxation, while with regard to industrial, accident and occupational disease, the funds are to be derived exclusively from the employers. On the question of the administration of social insurance, the Federation reminded that the insured persons must be accorded the widest possible share in the administration of social insurance, and trade unions are to be recognized as the legitimate constituencies for nominating the representatives of the insured persons on the social insurance institutions.

In India, it is significant, the economic demands of the workers and the peasants are at present largely influenced by political considerations. The future of the worker and the peasant is now identified

*See B. K. Sarkar: *Social Insurance, Legislation and Statistics* (1936) p. 6.

with that of the Congress. Some of the resolutions passed at a recent Conference (1934) of the Socialist Party may be mentioned in this connection. After declaring in favour of the Congress goal of complete independence the Conference insisted on the following programme :

- (1) Transfer of all power to the producing masses.
- (2) Development of the economic life of the country, to be planned and controlled by the State.
- (3) Socialization of key and principal industries such as steel, cotton, jute, railway, shipping, mines, banks and public utility services.
- (4) State monopoly of foreign trade.
- (5) Organization of co-operative societies for production, distribution and credit in the unsocialized section of economic life.
- (6) Redistribution of land to peasants.
- (7) Encouragement and promotion of co-operative farming with a view to the ultimate collectivization of all agriculture in the country.
- (8) Liquidation of debts owing by peasants and workers.
- (9) The provision of work to every able-bodied adult and of social insurance against unemployment, old age, sickness, accident, maternity, etc.
- (10) To everyone according to his needs to be the ultimate basis of distribution of economic goods.
- (11) Adult franchise on a functional basis.

Other demands which were marked out as immediate included the following :

- (1) Municipalization of public utility services.
- (2) Control of usury, direct or indirect.
- (3) A steeply graduated tax on all incomes including incomes from agricultural sources, above a fixed minimum.
- (4) Graduated death-duties.
- (5) The right to form unions, to strike and to picket.
- (6) Compulsory recognition by employers of workers' unions.
- (7) A living wage, 40 hours week, and healthy quarters and conditions of work.
- (8) Equal wages for equal work. Weekly payment of wages wherever demanded. One month's leave every year with full pay to all workers and two months' help with pay to women workers during maternity.
- (9) Provision against employment of children of school-going age in factories and women and children in underground, mining, and hazardous occupations.

It is of course quite possible to argue that many, if not most, of the above demands are impracticable in the present circumstances. Many of them have nothing to do with a labour platform at all. The real point to be considered, however, is the extent to which an abstract ideology influences the presentation of the

workers' demands. As in the case of the programme, so also in the case of leadership, the workers have so far had to depend more on the agitational than on the organizational aspect of the labour movement. The Congress platform in this respect is also more a declaration of policy than a programme to be immediately achieved. One of the Fundamental Rights laid down in the Nehru Report was that the "freedom of combination and association for the maintenance and improvement of labour and economic conditions is guaranteed to everyone and all occupations. All agreements and measures tending to restrict and obstruct such freedom are illegal." The following clauses in the list of Fundamental Rights adopted by the Congress have thus defined its attitude with regard to labour :

- (i) The organization of economic life must conform to the principles of justice, to the end that it may secure a decent standard of living.
- (ii) The State shall safeguard the interests of industrial workers and shall secure for them, by suitable legislation and other ways, a living wage, healthy conditions of work, limited hours of labour, suitable machinery for the settlement of disputes between employers and workmen and protection against the economic consequences of old age, sickness and unemployment.
- (iii) Labour should be freed from serfdom and conditions bordering on serfdom.
- (iv) Protection of women workers, and especially adequate provision for leave during maternity period.
- (v) Children of school-going age shall not be employed in mines and factories.
- (vi) Peasants and workers shall have the right to form unions to protect their interests.

The Congress could not, of course, ignore the C. S. P. and the misunderstandings that might arise in the country on the Congress attitude towards labour due to the formation of this Party. At a meeting held in Bombay in June, 1934, the Working Committee of the Congress thus stated its attitude : "Whilst the Working Committee welcomes the formation of groups representing different groups of thought, it is necessary, in view of loose talk about confiscation of private property and necessity of class war to remind the Congressmen that the Karachi resolution as finally settled by the A. I. C. C. at Bombay, in August, 1931, which has already laid down certain principles, neither contemplates confiscation nor advocacy of class war. The Working Committee is further of opinion that confiscation and class war are contrary to the Congress creed of

non-violence. At the same time the Working Committee is of opinion that the Congress does contemplate wiser and juster use of private property so as to prevent the exploitation of landless poor, and also contemplates healthier relationship between capital and labour."

§ 9

ORGANIZATION.

To act as a clearing house of information, to advise, to initiate and to review labour legislation, to hold and allocate funds for labour welfare work and to do such other things as may be necessary for securing and safeguarding the interest of labour, a Central Labour Control Board should be set up by the National Economic Council with an Industrial Council attached to it. The Industrial Council should consist of representatives of labour, employers and the Government together with a number of sub-committees reporting to the Council on matters affecting special interests such as woman labour etc., the total number of members of the Council being limited to 20. It is desirable that the Federal Government should have a special portfolio of labour and of legislation involving the creation of any civil rights or liabilities which should be treated as federal. Most of the provincial Ministries have also set up Ministries of Labour and it would considerably assist the working of such Ministries if Provincial Industrial Councils were set up to which reference of all disputes which cannot be settled by voluntary conciliation should be compulsorily referred.

One of the primary functions of the Central Labour Board should be to assist and advise labour as well as all the employers on all matters affecting their mutual interest whenever such advice may be sought. It should be the registering authority for all trade unions, compulsory registration being provided for all trade unions satisfying the requirements of the law. Compulsory registration, on its part, should entail compulsory recognition. For the purpose of promoting the growth of healthy trade unionism in the country, the Central Labour Board should appoint a body of Organizers whose duty should be to assist in the formation of trade unions on proper lines, it being laid down that the Board must not sanction registration for any trade union which is not certified by the appropriate

Organizer. Appeal should lie against any action of the Organizer to the Central Board. Finally, the Board should undertake enquiries and investigations relating to labour conditions. It should maintain a Central Labour Exchange and a chain of Provincial Labour Exchanges for which the Central Exchange might be a co-ordinating body. The administration of all schemes of social insurance and unemployment relief should be subject to the ultimate control of the Central Board.

It has already been pointed out that the principal duty of the Organizers appointed by the Central Board should be to assist the formation of trade unions on proper lines. It may be possible further to utilize the services of these organizers for the purpose of organizing labour welfare schemes with the help and assistance of the employers and the trade unions concerned. The Central Board itself may encourage the adoption of such schemes by offering to bear part of the cost, say, on a fifty-fifty basis. Again, the Organizer may also be required to supervise the recruitment of labour wherever the Board may direct him to do so in view of the special circumstances of any particular area.

The enumeration of these functions is, it may be added, more suggestive than exhaustive. It is intended as a basis for a comprehensive rational effort to attack the problem of labour. There is at least one advantage attending such effort in this particular case, and it is that we are only experiencing the beginning of the labour problem. A well-directed rational programme has a greater chance of success at this stage than at any other.

§ 10

PROGRAMME.

The following programme may be suggested for the consideration of the planning authority under the different heads :—

Minimum Wage :—The purpose of minimum wage regulation by which is meant the fixing of legally enforceable minimum rates of wages by some authority other than the employers and workers or organizations of employers and workers directly concerned is to secure for workers such wages as are adequate to promote efficiency and to enable the worker to maintain himself and his family in accordance with such minimum standards of comforts as may be

reasonable in relation to the nature of his occupation. A second consideration is that workers should be paid wages more or less equivalent to wages of workers in comparable occupations. Naturally different occupations should have different scales of wages, and therefore, different minimum wages. A recent survey* issued by the International Labour Office deals with the minimum wage legislation and practice in nine countries. Thus, in Great Britain, the principal legislative measures regulating minimum wages are the Trade Boards Acts of 1909 and 1918, the Agricultural Wages (Regulation) Act of 1924, the Coal Mines (Minimum Wage) Acts of 1912, and 1934 and the Road Haulage Wages Act of 1938. The Trade Boards Acts set up Trade Boards in certain industries where wages were abnormally low, and contain provisions for extension of the scope of this machinery to other industries by provisional orders subject to confirmation by Parliament. In 1935, the number of Trade Boards in the country was 47 and the number of workers covered was 1,135,870 of whom 73 per cent were women ; in August, 1938, the number of trades covered stood at 48. Though India has not ratified the Minimum Wage Fixing Machinery Convention adopted by the International Labour Conference in 1928 there has been discernible in recent years a distinct movement in favour of minimum wage legislation in certain trades. The movement received support at the hands of the Royal Commission on Indian Labour. The question has also been put into the forefront of the labour programme by the Bombay Textile Inquiry of 1937 and also by the Committee appointed by the United Provinces Government in the same year to investigate the conditions of labour in general in Cawnpore and the textile labour in particular. The Committee recommended minimum wage scales in certain categories of workers and the setting up of a Wage Fixation Board on the lines of the British Trades Boards. Similarly, consequent on a resolution adopted by the Bihar Legislative Assembly, the Government set up in 1938 a committee to enquire into the conditions of industrial labour in Bihar and ascertain the possibility of setting up minimum wage fixing machinery in the province. In January, 1938, the Bombay Municipal Corporation approved of a proposal to fix Rs. 25 per month as the minimum wages for adult male workers, Rs. 21 for

**The Minimum Wage—an International Survey* (International Labour Office), 1939.

women workers and Rs. 19 for children. Several private bills are also under consideration in different provinces dealing with the same question. In the plan suggested in this chapter, it is recommended that there should be in the first place a minimum wage for all adult male workers in whatever trade they may be engaged. This minimum wage should not be less than Rs. 20 for unskilled workers and Rs. 40 for skilled workers. Subject to this general minimum, however, there should be different minima for different trades which should be fixed by Trade Boards set up on the lines of the British Boards but working under the general authority of the Central Labour Board. The general aim should be to bring about immediately an increase of 50 per cent in the average monthly rates of wages prevailing in different occupations. It is essential that a full wage census should precede the fixation of the minimum wages.

Hours of Work :—The maximum number of hours for a working day (24 hours) for any individual worker should not be more than 8, and that for the week must not exceed 48 with one day of rest in every week. Casual leave should be permitted for 10 days, privilege leave for one month on full pay for every 11 months' work and 2 months' medical leave on full pay. Married women should have maternity leave for six weeks before and six weeks after confinement during which period every worker should be entitled to maternity benefits including free medical attendance. No young person below the age of 15 should be employed in any factory. Night work for women and children should be totally prohibited. No women should be employed under-ground in mines or in any dangerous occupations. Every young worker seeking employment in any factory should produce a certificate showing his academic attainments and technical proficiency from the school or schools that he had last attended.

Housing :—Every labourer should be given at least one room all to himself and his family. Separate accommodation should be given to married workers and bachelors. The total space allowed must be sufficient to prevent overcrowding, and provide for decency. There should also be adequate sanitary arrangements, with sufficient privacy for married quarters. Nurseries should be provided wherever a sufficient number of working mothers are engaged in any mill or factory. The cost should be borne on a fifty-fifty basis by the employ-

ers and the planning authority or the Government. The nature of the accommodation to be provided must conform to specifications laid down by the Ministry of Health.

Welfare Services :—Any employer employing more than 100 workers should provide for free medical inspection and treatment. He should establish a free hospital or clinic if the number of his employees exceed 500. In special cases, the planning authority or the government may make suitable grants for the purpose. Secondly, the employer should provide the capital equipments for any athletic or other recreational facilities that may be necessary in the interests of the health of the workers. Thirdly, wherever there is a sufficient number of children, the authorities of every factory should provide for elementary schools.

Insurance :—Scientifically framed schemes of social insurance against employment, accident and old-age should be devised covering every worker satisfying the necessary conditions. Here also the employer and the planning authority or the government should equally share the costs of the schemes, the workers being exempted from any contribution, or if it is deemed undesirable to exempt the worker altogether, the worker may be asked to contribute a nominal sum just for the purpose of awakening his sense of responsibility in the proper working of the schemes.*

Conciliation :—Every specified industry should set up methods of conciliation for all disputes. For this purpose joint associations of labourers and the employers should be set up and it must be understood that all disputes must pass through such associations before they are brought up to the Industrial Court or the Industrial Council for final decision. The militant aspects of trade unionism should be brought into play only after all the available means for the settlement of disputes in the shape of these associations and councils have been exhausted without any appreciable effect.

Trade Unionism :—The membership of a trade union should be open only to the workers engaged in the industry concerned. The office-bearers of the union should also normally belong to the

*For a full discussion of the Organization that has been set up in different countries to collect and administer the funds for financing the insurances, see B. K. Sarkar : *Social Insurance, Legislation and Statistics* (1936), pp. 165 ff. The Russian system of unified organization seems to be preferable, acting under the co-ordinating authority of the Central Labour Ward.

industry but where it is not possible to find suitable persons for the purpose, outsiders may be taken in for a limited period. Every union should have to register itself, and every employer must recognise a registered union. The political funds of the union must be kept distinct from other funds. No strike should be declared until after all the available means for conciliation and settlement have been tried without effect; even then the strike should be notified at least two weeks in advance of the date on which the strike is to be declared in the case of all industries except those which are important from the national point of view, in which case the notice period should extend to at least 4 weeks. A general strike should be legally subject to the conditions that the strike is not allowed to affect public utility services.

It must be emphasised once again that the programme set forth above is more suggestive than anything else. Some of the items in the programme may seem to many to be a little too radical in the existing circumstances. It may be quite possible to agree with such a view. But the point that I want to urge is that the worker must have his charter and it is on the care with which the charter is prepared that the delicate frame-work of industrial peace rests. A happy working population will make the National Economic Plan an immediate success; if, on the contrary, the workers of the country are discontented, dissatisfied and overworked, it would be difficult to push through any such scheme to ultimate success.

CHAPTER XXIII

UNEMPLOYMENT

§ 1

SCOPE OF THE TERM.

If anyone were to ask me, what is the most acute of the problems facing your country, I would unhesitatingly answer, unemployment.

When, however, we use this word, we must be careful as to the precise meaning that we attach to it. Even such a clear thinker as Professor Pigou thinks the term "somewhat difficult to define with accuracy", though its "general significance is understood by all." First of all, we distinguish between the unemployed and the unemployable. The unemployable are either those who are incapable of working or those who are unwilling to work even if capable. To the former class belong the aged and the infirm, to the latter class the habitual vagrant. These classes must obviously be excluded from any measurement of the extent of unemployment. Again, unemployment means not necessarily that a person is wholly out of work. If one man is wholly out of work, the extent of unemployment will be the same as when two men are employed only half the time that they would otherwise be employed. The word *otherwise* means, in the absence of the conditions preventing full employment at the rates normal for any given industry. If all the unemployed persons were given short-time work, there would, therefore, still be unemployment. The unemployment would be greater if the men are given work at less than the normal rates of wages for the given industries. *Pari passu*, if at any given time, there is, say, one man who is employed and one who is not, the total unemployment

(corresponding to the normal working day of the man who, in the absence of work, is now unemployed) would be lessened if the man who is employed works overtime in addition to the normal period of his employment.

Thus, according to the British National Insurance Act, unemployment prevails when a man cannot obtain the work he desires (i) otherwise than in a situation vacant on account of stoppage of work due to an industrial dispute, (ii) in the district where he was last ordinarily employed, otherwise than at a rate lower, or on conditions less favourable, than those which he habitually obtained in his usual employment in that district, or would have obtained had he continued to be so employed, and, (iii) in any other district, otherwise than at a rate of wage lower, or on conditions less favourable, than those that generally obtained in such district. This definition will, it is easy to see, be very helpful in investigating the precise extent of unemployment, provided, of course, that the data regarding the normal rates of earnings in different industries and in different districts (industrial areas) are available. The last proviso is important, because it is on the rock of the lack of adequate and reliable statistics that the investigation of the precise extent of unemployment founders. This is true not only of India; it is true, in greater or less degree, of every other country in the world. Yet, a rough and ready approximation is found by means of trade union figures in other countries, while in India even to these figures little statistical value can be attached. At the end of 1929, only 87 unions claiming 183,000 members had been registered in India under the Trade Union Act. There are many unions which are not so registered and it is significant that the All-India Trade Union Congress had affiliated to it in December, 1929, only 51 unions claiming a total membership of 190,436. Again, not all the societies which are registered are recognised, for the Act does not provide for compulsory recognition of registered societies. The result is that very few of the trade unions could be called real, or effective, representatives of labour in the industries concerned, nor is the T. U. C., strictly entitled to speak in the name of the general body of labour in India. It would, therefore, be useless from the purely scientific standpoint, to turn to the Trade Unions as the source of reliable information regarding the state of employment (or unemployment) in any given industry.

§ 2

EXTENT OF UNEMPLOYMENT.

Taking the problem of unemployment as a whole, it has already been noticed that the proportion of non-working dependants in different occupations varies from 38 to 64 per cent in this country. The proportion is a little over half of the whole population. The total extent of unemployment will thus be evident if it is remembered that the workers include both earners and working dependants and that the proportion of earners to working dependants is about nine to two. The figures thus present a staggering story of both unemployment and under-employment. In absolute number, the number of non-working dependants in India is 19,68,00,000. The total number of working dependants must also be over 2,50,00,000.

Of the occupations classified, the Production of Raw Material claims 67·1 per cent, Industry claims 9·7, Transport 1·5, Trade 5·4, Public Force '5, Public Administration '8, Professions and Liberal Arts 1·7, and Miscellaneous 13·3. The comparative occupational constitution of the larger geographical units is shown in the following table, inclusive of subsidiary occupations :

TABLE

Distribution of 1,000 occupations in

A and B.

I. Exploitation of animals and vegetation	...	814	680	747	676	678	800	462	634	745	568
II. Exploitation of Minerals.	...	4	2	8	1	6	2	1	1	...	4
III. Industry	...	83	88	83	113	118	83	88	170	117	107
IV. Transport	...	17	20	9	20	41	12	13	21	9	45
V. Trade	...	38	68	44	51	93	44	42	60	51	119
C. Public Administration, Professions & Liberal Arts	...	18	28	17	39	44	20	22	41	20	38
D. Others	...	26	114	92	100	20	39	372	73	58	119

It will be seen from the above table that the percentage of working population depending on agriculture varies from 46·2 in the case of Madras to 74·5 in the case of the United Provinces and 81·4 in the case of Assam. The low percentage of the agricultural population of Madras does not, however, mean that a larger percentage is engaged in trade, industry or commerce, for Madras has the invidious distinc-

tion of having the largest percentage of the working population in class *D*. The Punjab seems to be occupationally the leading industrial province with 17 per cent of her working population employed in industry, U. P. coming next with 11·7 per cent, Bombay a close third with 11·3 per cent, and Hyderabad a close fourth with 10·7 per cent, while Bengal and Madras compete for the fifth place with 8·8 per cent each. Burma which is separated from India is not taken into calculation.

The role of women either as earners or as working dependants does not appear to be very important. In subsidiary occupations there are in every 1,000 earners only 239 females to 761 males while if domestic service be excluded, the figure of females per 1,000 workers falls to 154. Among earners in principal occupations, the number of females per 1,000 earners is 222. Among working dependants on the other hand, females number 733 to 267 males, while if principal and dependant occupations be taken together, excluding subsidiary occupations which only represent the duplication of occupations by individuals already counted, the proportion of actual female workers to males is 317 to 683 in every 1,000. In domestic service the proportion of female workers is the highest, being 808 per 1,000 workers.

§ 3

INDUSTRIAL UNEMPLOYMENT.

As regards the population that is engaged in "Organized Industry", the number of workers employed in organized labour is extraordinarily low for a population as that of India. The daily average number of hands employed by establishments in British India to which the Factory Act applies is only 1,553,169. Of the total number of workers employed in plantations, mines, industry and transport, not more than 12 per cent is employed in organized establishments having 10 or more employees. If the number of workers employed in the unregistered factories is included, the total may come up to 5,000,000 as the figure of organized labour in India. In this connection it will be of interest to quote the following remarks from the Census of India: "It has been claimed that Indian factory labour is very largely of the casual description; that it is not skilled and it is not recruited even from the hereditary trades to which

it might be expected to look for its supply ; that while the hereditary weaver is maintaining a precarious existence weaving *khaddar* at greater cost than is required for machine made fabric, the mills producing the latter seek their labour in the casual labour market, recruiting very largely from agriculturists who come and work in the mills for a time and then go back to their villages ; and that the same applies to most forms of factory labour in India. It is true that industrial labour is continually changing—a fact obvious enough at the census when the final enumeration was checked against the preliminary one, but the bulk of it is probably semi-skilled, and in any case factory conditions bear little relation to hereditary handicraft.....The general result is that factory labour is largely recruited from younger sons for whom there is no land or need at home, village servants for whom there is no work and whom the village is unwilling to maintain, cultivators in debt who need cash to pay off a mortgage, ne'er-do-wells who have attracted too much attention to themselves at home, and women frequently of equivocal status.”*

There is partial unemployment for the year, so far as industrial labour is concerned, so long as there is no stable work, and the turnover of labour is large. There need not, however, be any net unemployment if and so far as (i) the labour which ceases to be employed in industry is alternatively employed in agriculture and (ii) the loss is exactly balanced by new entrants. There is, indeed, even in this case, potential unemployment in so far as rates of earning are kept low by constant shiftings of labourers. If, however, attracted by the ease of getting employment when the turnover of labour is large, there is an excess of workers wanting employment over those who have left it, there is, to that extent, and in the absolute sense, unemployment. In specific industries, unemployment is, at present, quite serious, but industrial unemployment in our country has not yet attained the serious proportions that it has attained in most of the countries in the West. I have quoted the finding of the Royal Commission on Indian Labour that during 1892-1929, the only years in which the factory population showed a decrease on the preceding year were 1911 and 1928 and “in each case the decrease was less than 1 per cent of the total”. This, of course, excludes what I have called

**Census of India*, 1931, Vol. I, part I, pp. 285-86.

potential unemployment in the shape of low earnings. The finding also excludes the abnormal situation of the present time. To complete the picture it must be recalled that only a smaller percentage of the factory workers constitute a permanent element. The highest recorded—in Ahmedabad—is only 20 per cent. Most of the labourers renew periodically, if not every year, their affiliations with the village home. Many of them, too, have subsidiary sources of income, either in the shape of the earnings of other members of the family, or some other occupations, such as, agriculture, poultry etc. Even where unemployment exists—and it is not very large—the incidence per family is not very great.

The number of workers engaged in the cottage industries has not been estimated with any degree of accuracy. In fact, this is one of the points that should form an important item in an industrial survey of the country. The importance of some of the small and cottage industries cannot be over-estimated. For instance, it has been estimated that the handloom supplies nearly 25 per cent of the total requirements of cloth in the country and is responsible for about 40 per cent of the total cloth produced in India. The Industrial Commission calculated in 1918 that between two to three million handloom weavers were at work in India. The figures for the other small industries are not separately available. The following table will give some idea of the number of persons actually working in the small or cottage industries :

TABLE

	<i>Males</i>	<i>Females</i>
Working in leather	256,515	44,429
Bone, ivory, horn, shell, etc. workers (except buttons)	8,317	1,502
Carpenters, turners and joiners	881,586	23,379
Basket makers and other industries of woody materials including leaves, thatchers and builders working with bamboo reeds or similar materials	321,753	316,422
Potters and makers of earthenware	600,628	268,595
Food industries	706,281	770,714
Tailors, milliners, dress makers and darners	493,116	155,248
Other miscellaneous and undefined industries (toy making, taxidermy etc.)	34,852	13,198

So far as agriculture is concerned, the following figures will be of interest :

TABLE

	<i>Males</i>	<i>Females</i>
Non-cultivating proprietors taking rent in money		
or kind 	2,419,817	837,574
Estate agents and managers of owners ...	56,151	7,689
Estate agents and managers of government ...	8,070	1,868
Cultivating owners 	22,469,143	4,536,957
Tenant cultivators 	26,896,149	7,277,755
Agricultural labourers 	17,110,466	14,369,753

It will be obvious from the above two tables that though, compared to agriculture, the number of workers employed in the small or cottage industries is not considerable, their absolute number is not negligible. The table relating to the small industries given above does not include all such workers but is mainly intended to be illustrative. Many of the small industries are followed as a subsidiary occupation. About 10 per cent of the total number of workers (all occupations) are engaged in such subsidiary occupations, which works out at a little over 4 per cent of the total population. The problem in India is thus partly a problem of unemployment and partly a problem of under-employment. Even those who are employed in a "principal occupation" are not fully employed. In agriculture, for instance, the cultivators generally remain idle for from 4 to 7 months in the year according to the nature of the crop, methods of cropping, nature of the soil and availability of water. Again, there are certain occupations the income from which is not sufficient to maintain the worker in a reasonable standard of efficiency, with the result that the worker and his family are insufficiently fed, clothed and sheltered, or in the alternative, the worker has to find out subsidiary means of livelihood in which case there is over-employment, or rather, overwork.

§ 4

UNEMPLOYMENT OF THE EDUCATED CLASSES.

Our comparison with Western countries show a reverse result when we come to consider the employment of the educated middle classes. For here the problem is very serious com-

pared to the problem, so far as there is a corresponding problem at all, in the West. Here in India, we get all the phases of unemployment suggested and delineated in the British National Insurance Act. Thus, there is not only absolute unemployment and unemployment in the shape of partial or short-time employment but there is unemployment in the sense of abnormally low earnings, and, compared to the standard of living of an average middle class family, the incidence of unemployment is also very high. Unfortunately, it is not possible to get exact figures to demonstrate and establish this fact but it is borne out by common experience especially in Bengal. There is no unemployment, comparatively speaking, of intellectual labour as such in the West. In this country, too, in the relative sense, the unemployment of intellectual labour does not appear to be a vast problem when it is remembered that only ten per cent of the people have received elementary education in India. But the absolute figures of such unemployment, were they obtainable with any degree of accuracy, will tell their own tale. The middle-class population, particularly the educated section, is a great social force in any country. The key to social progress is held mostly in the hands of the leaders that are born to it. It is a social and political calamity of the first order if the majority of this class fail to secure employment and let their fine intellectual capacities run to waste. That is what is happening in India. It is a great pity as well as a matter for serious concern; for it is this class which in other countries contributes an uninterrupted supply of leaders in every branch of thought and activity.

We have no separate statistics for literate or educated workers, but since a large majority of these are to be found in the administrative services, professions and the liberal arts, the figures relating to these occupations may give us some idea of the number of such workers drawn from these classes. The following figures are taken from the Census of India, 1934, Imperial Table No. X :

TABLE

<i>Occupation</i>	<i>Number</i>
Services of the State except the Police and Posts and Telegraphs ...	387,578
Services (as above) of Indian and Foreign States ...	279,663
Municipal and other local (not village) service ...	151,050
Village officials and servants other than watchmen ...	335,762

<i>Occupation</i>	<i>Number</i>
Police other than village watchmen	323,817
Post Office, Telegraph and Telephone services	89,255
Priests, ministers etc.	807,160
Other religious workers	58,873
Lawyers of all kinds	75,000
Lawyers' clerks, petition writers etc.	68,441
Medical profession	369,483
Professors and teachers of all kinds	513,818
Clerks and servants connected with education	40,960
Letters, Arts and Sciences	408,986

The above figures, as already indicated are not exhaustive, for a large number of literate workers are employed in trade and industry. For example, 482,850 workers employed in banks, establishments of credit, exchange and insurance, and 70,194 persons employed as brokers, commission agents, commercial travellers, warehouse-owners etc. are almost all literate workers. Similarly, the workers who are engaged in sub-class III (miscellaneous and undefined industries such as printers, engravers etc., numbering 52,805) and in sub-class XI (insufficiently described occupations manufacturers, business men and contractors otherwise unspecified numbering 136,674 workers, and cashiers, accountants, book-keepers etc., in unspecified offices and warehouses and shops numbering 802,857) are also mostly literate or educated persons. The idea in giving these figures is not only to show the extent of the employment of the educated classes but to point out from the nature of the occupations specified above that the scope of the employment of the educated classes in these occupations will be extremely limited in future. This confirms the popular view that the future of the educated young man lies not so much in "safe" jobs as in trade, industry and commerce. Assuming vacancies at the rate of 5 per cent per year in the "safe jobs", that is, jobs carrying a specified monthly salary, the total number of vacancies that can be offered to literate persons seeking such employment is not likely to exceed 1,50,000 a year. It must be noted that literacy does not necessarily mean literacy in English. It has been calculated that in Bengal alone, the number of persons unemployed who have received higher education is not less than 50,000. If we assume that 10 per cent of total number of non-working dependants are simply literates, the number of the literate unemployed must be about 2,00,00,000. These figures will give us some idea of the problem of unemployment in our country.

We may here take the opportunity of referring to the attempt that was made for securing a statistics of the educated unemployed during the Census of 1931. The attempt proved abortive. The method of enquiry followed was that of sending schedules to those who were "fully literate" to be filled up by them and returned to the Census authorities. The result was that very few of those who received the schedules cared to fill them up and return to the authorities. There were of course many reasons why the educated unemployed declined to return themselves as such. Only 15,309 were returned as unemployed as the result of this enquiry. This was, as the Census authorities indicated, a hopeless understatement. The following tables give a somewhat detailed analysis of the figures :

TABLE

AGE DISTRIBUTION OF THE UNEMPLOYED

<i>Age</i>	<i>Unemployed less than one year</i>	<i>Unemployed for one year or more</i>	<i>Total</i>
22-24	2,228	6,797	9,025
25-29	653	3,544	4,197
30-34	176	1,331	1,507
35-39	68	512	580
Total (22-39)	3,125	12,184	15,309

TABLE

EDUCATIONAL QUALIFICATIONS OF THE UNEMPLOYED

1. Holding foreign degrees	...	48
2. Holding Indian degrees or diplomas	...	2,205
Medical		154
Legal		149
Agricultural		21
Commerce		111
M. A.		113
M. Sc.		41
B. A.		1,370
B. Sc.		169
B. Eng. or L. C. E.		42
B. T. or L. T.		35
3. Intermediate		284
4. School L. C. or Matric		11,317
5. Non-qualified		1,455

Total Unemployed ... 15,309

From the figures supplied by the Education Department it was found that there were, in 1930, 25,716 candidates who passed the Matricula-

tion, 13,633 who passed the Intermediate Arts or Science examination, 9,300 who passed examinations for their B.A. or B.Sc., degrees and 1,426 who passed examinations for their M.A. or M.Sc., a total of 50,000, of whom over 10,000 were graduates. The number of graduates turned out annually in India from 1921 onwards has not been less than 7,000 and has at least twice been over 10,000 making over 55,000 graduates alone between 1921 and 1930 so that the figure of 15,000 odd returned as unemployed, most of whom are only matriculates "can hardly be regarded as affording a satisfactory explanation of the outcry there is about the lack of employment for the educated."* As the question of middle class unemployment has now become a problem of the greatest significance in India, it is hoped that at the time that the next Census falls due, the general schedule should be prepared in such a manner that the particulars entered in the occupational statistics should include full details about the educational qualifications of the person enumerated.

However, if the statistics obtained about the 15,000 and odd returned as unemployed be taken as a "sample" for the purpose of statistical evaluation, we get certain interesting results. For instance, it was to be expected that the age-group 22-24 would disclose the largest percentage of the unemployed. The figures confirm this expectation. It was also to be expected that as the age-group increased, the percentage of the unemployed would decrease. Here again figures support this expectation. If, therefore, the figures given above may be considered to give a fairly accurate index of the position, we find that by far the largest majority of the unemployed present have been without any employment for one year or more. This suggests a chronic state of unemployment for the majority of the unemployed. It is evident that with the onset of the economic depression since 1930-31, the percentage of persons unemployed for more than one year must have greatly increased. It may be of interest to note that of the 15,309 unemployed, 2,580 were Muslims as compared to 11,408 Hindus (including Depressed Hindus). Other things being equal, the figures suggest that the problem of unemployment even among the Muslims is not a negligible one unless a greater percentage of the Muslims returned themselves as unemployed as compared to the Hindus. Another interesting fact

**Census of India, 1931, Vol. I. Part I, p. 337.*

disclosed by the investigation is that the largest percentage of the unemployed—as many as 6,428—came from the cultivating classes.

The second of the above two tables discloses another very important fact. It is that though the largest percentage of unemployment occurs among persons with a general Arts Degree, persons possessing high foreign qualifications or technological and professional degrees have been considerably affected by the problem of unemployment. This partly disproves the theory that it is our system of education that is primarily responsible for the present unemployment among the educated classes, or that the only remedy for this state of things is that our educational system must be given a vocational bias. To do that will only alter the character of the problem of unemployment. In other words, instead of persons with a general Arts degree forming the majority of the unemployed, persons with technological or professional qualifications would swell the ranks of the unemployed. The main problem, in fact, is to increase the opportunities of employment. This is partly a political, and partly an economic, problem. A National Policy that will aim at a rapid increase in our health and welfare services, extension of educational facilities, and a quickening of the pace of industrialization—these must be necessary factors in a solution of the problem of unemployment but the formulation of a National Policy is itself a political problem. There are many honourable, useful and at the same time patriotic careers which are not at present open, or are only open in a very restricted sense, to Indian youths. Thus, the army and the navy including merchant-shipping, foreign exchange business, aviation—these are some of the lines, taken at random, which are more or less closed to the Indians, and which are likely to remain closed as long as India is not politically independent. But, even apart from these, it may be possible, by initiating and organizing a careful programme of economic and cultural development, to absorb a considerable proportion of the existing unemployed.

§ 5

PROGRAMME.

If we now analyse the causes of unemployment, we may

lay down the following classification that accounts for large classes of unemployed labour :—

(1) Those which are the result of temporary or seasonal variations in the demands for workers of special classes.

(2) Those that are the result of conditions which produce a type of worker which is lacking in definite qualifications considered by the employer.

(3) Those which are the result of the restriction of the opportunities of employment in different directions.

Illustrations of the first class of unemployment may be found mainly in agricultural unemployment and in the unemployment that results from trade and industrial fluctuations. In so far as employment depends upon an element of uncertainty, there is bound to be a certain measure of unemployment in such occupations. A number of recommendations have already been made in the chapters on the Agricultural Plan and on Irrigation and Power which are intended to mitigate the forced idleness of agricultural labour in our country. The extension of the facilities of irrigation and the introduction of multiple cropping together with a sound agricultural policy are bound to mitigate the fluctuations of demand for agricultural labour in our country. The diversification of occupations and the revival and reorganization of cottage industries are also meant to serve the same purpose. So far, however, as the fluctuations of trade and industry are concerned the problem bristles with difficulties. While economic and statistical research should do its best to analyse in a scientific manner the causes and phenomena of these fluctuations so that the State might be enabled to correct or anticipate those disturbances of the economic system which are responsible for the periodic recurrence of crises, there are certain features in the international situation which at present obstruct the formulation of a sound trade and industrial policy. The ideal of free trade has now been replaced by that of fair trade. In some cases trade has been subjected to systems of control that leave but little freedom to the individual trader. Quotas, restrictions on exchange, trade by barter—all these restrictions now obstruct, and obstruct very effectively, the natural flow of trade. It is not, therefore, surprising that there should be a certain amount of stagnation of the well known channels of trade. The difficulties have been further aggravated by

the autarchical ambition of the Totalitarian States. In India, we have adopted a policy of discriminating protection since 1923. The policy has recently been subjected to severe strain on account of trade preferences granted to the United Kingdom and certain other countries and of bilateral trade agreements in which certain definite categories of goods are to be exchanged for other categories of goods with the result that the fundamental principles of international trade have received a staggering set-back. No doubt these restrictions are supposed to have been put in the interests of the national economy. But the argument, on a deeper analysis, will be found to move in a circle. In other words, the causes and the consequences act and react on each other. It is like the argument that one nation should rearm because another is doing so and then the latter rearms still more heavily because the former has begun rearming. One State imposes restrictions on the imports of another State because that other State has done the same thing on her exports. Each State tries to be self-sufficient in economic resources because other States are trying to do the same thing. There is no end to this sort of competition. In fact, it is in contradictory phenomena like these that the necessity of planning becomes so much an insistent problem. Any effort which aims at mitigating the aggressive character of the economic policies of different States will contribute a real solution to this distressing problem.

In applying this principle to the case of India we must not, however, forget the circumstances of this country. In the first place, India will have to safeguard her own interests in common with the other countries of the world ; to that extent she cannot permit herself to stick to the exploded doctrine of free trade without the risk of the complete annihilation of her trade, commerce and industry. Secondly, even if the world went back to the system of free trade, India will have to consider whether her economic resources and strength is of a sufficiently competitive order to allow her to accept the policy. As it is, any ruthless application of the doctrine of free trade to India would be absurd for India is still far from attaining that competitive efficiency which alone will ultimately enable her to meet the foreign trader on his own terms. It is the aim of planning to secure for him that strength and confidence.

So far as the third class of causes is concerned, this class

represents the crux of the problem so far as this country is concerned. The expression "lack of opportunities" is to be taken in the widest sense. Historically India had been too slow to take advantage of the Western methods of production till she found to her dismay that she had become a stranger in her own home ; that is to say, before she could have time to adjust herself to the new circumstances brought about by the Industrial Revolution foreign capital and enterprise had come into the country and captured all the positions of advantage. These advantages have since been consolidated and fortified for constitutional guarantees. The result is that though at present Indian capital and enterprise seek employment in trade and industry, the stone-wall of commercial safeguards offer a stupendous barrier in all directions. India is still dependent on foreign countries for almost all of the capital equipments necessary for her industrialization ; she is dependent for the advancement of her trade on such credit or exchange facilities as may be granted by foreign houses ; the key industries are mostly operated by foreign capital and enterprise and there is little room for the development of Indian activity in these directions unless a planned effort were made for the purpose backed by the maximum measure of support that the State could give. In many occupations Indians are still considered ineligible for employment. The process of Indianization of the army is so slow that the fulfilment of the policy cannot be foreseen within any measurable distance of time. Facilities for training in the methods and technique of big business are denied to Indians. The capital market is too disorganized to be of any effective help to the Indian industrialist when he might need finance. Tariffs often operate to his disadvantage. All these amount to a very serious restriction of the opportunities that are usually available to the business men and industrialists in other countries. Added to these difficulties, there is the inadequacy of education in our country. A ridiculously low percentage of literates is not consistent with a high degree of industrial efficiency. The system of education itself is ill organized and defective. Whatever may be the merits of a literary education, its advantage from the point of view of the industry and commerce of the country seems to be dubious if it is emphasised at the expense of its practical aspects. In India, there is, no doubt, a craze for higher education, but unfortunately the higher education that is sought for is far too literary in character to be any practical use to the young scholar.

A few words may particularly be addressed on the subject of the unemployment of the educated classes. It is my firm belief that it would be wrong to seek a solution of this problem in occupations that defeat the whole object and purpose of education. I have seen the dignity of manual labour extolled in no uncertain fashion by people who ought to know better. I am prepared to admit that up to a certain point man may labour in dignity, and that in all the circumstances honest labour is always to be preferred to begging or stealing or living on charity. But let us not confuse the issues. The education that a young scholar has received is an asset which should be available for use in the interests the country to which he belongs. If that is not done, it means so much waste from the national point of view. If a brilliant graduate is asked to act as barber, he will, I submit, accept the thesis that there is dignity in manual labour as piece of irony rather than as an inspiration. From the Indian point of view it would only be a concession to those who find in the *status quo* the manifestation of all virtue or are otherwise interested in maintaining or perpetuating the existing state of things. Secondly, dignity of manual labour, when preached as the only alternative to starvation can lay claim to little rational justification. I am afraid I cannot appreciate the spectacle of dignity that a graduate puller of rickshaw or a polisher of shoes at the street corner presents; I cannot conceive of a more pathetic spectacle than that and I cannot think of the sight except as the strongest indictment of the failure of the Government to render to the educated young men of the country what is his due. At any rate, we should not cloak our own inefficiency or inability with high sounding meaningless phrases.

A clear-cut programme for the relief of unemployment is not possible to give until the whole of the economic complex of the country is reviewed. The different plans which it is the purpose of this work to suggest with regard to the different spheres of our economic life are intended to offer the solution of the problem of unemployment in their respective spheres. A few suggestions which are, however, of a general character are given below :—

(A) *Agriculture and Industrial Labour.*

So far as agriculture is concerned, the problem is one of utilizing the idle months of the agriculturist and of providing with

subsidiary or alternative means of livelihood. No specific suggestions need be given here as these will be found in the chapters dealing with these problems. So far as industrial labour is concerned, it has already been shown that there is a close connection between agriculture and village life and the nature of the labour that is available for industries. The problem, thus, is to build up a stable labour force for industries. This can be done by training up labour in the processes of different industries. The planning authority will naturally have to take account of those who live on agriculture without in any way contributing to it as the chief source from which labour for the industries can be drawn. To this end the following measures may be recommended :

Measures intended to increase the mobility of labour :

(i) Improvement of the means of communication, (ii) cheapening of the costs of travel, particularly for large groups of labourers moving from place to place, (iii) establishment of Labour Exchanges at suitable centres for the purpose of bringing the employer and those who seek employment into touch with each other.

Measures intended to improve the efficiency of labour :

(i) The establishment of trade schools and systems of apprenticeship training, (ii) organization of vocational courses, (iii) award of technical scholarships for study and training abroad to deserving pupils.

Measures dealing with temporary fluctuations of demand for labour :

(i) The regulation of the public works activity of the government at a time when the normal demand for industrial labour shows a falling off and (ii) the institution of unemployment relief for temporary periods.

Measures intended to increase the existing demand for labour :

This anticipates the entire scope of economic planning for India. It is, therefore, not proposed to deal separately with this subject. Suffice it to say that in this big task of finding new avenues of employment for our countrymen, the government, the universities, the chambers of commerce, the industries and private individuals and their organizations should all have to co-operate. The planning will be done by the respective planning authorities,

the whole scheme being co-ordinated and controlled by the National Economic Council.

(B) *Measures dealing with middle-class unemployment :*

Here, again, all that need be said is that the various measures for dealing with this problem have been dealt with in different chapters and that if the recommendations made in these chapters are accepted and acted upon, the question of unemployment so far as the educated classes are concerned will cease to exist. As for specific recommendations, the *locus classicus* on the subject is the report of the Unemployment Committee, United Provinces (1935), presided by Sir Tej Bahadur Sapru. Though the Committee principally dealt with the conditions prevailing in the United Provinces, its recommendations have more than a provincial application because it is common knowledge that the causes and the conditions of the problem of unemployment are practically the same in each province of India. It would take me far beyond the limits of the present chapter to review in detail the recommendations of the Sapru Committee but it is inconceivable that anyone who may be entrusted to deal with this problem should omit to make a detailed study of this masterly and comprehensive Report. A summary of the Committee's conclusions and recommendation is given in Chapter XIX-B of their Report.

CHAPTER XXIV

A NATIONAL TRADE POLICY

§ 1

FUNDAMENTAL PRINCIPLES OF A TRADE POLICY.

The problem of planning India's trade is to be approached both from its national and international context. It is in the sphere of trade that the rising tide of economic nationalism has submerged the foreshore of international relations. There is no doubt that economic nationalism has derived its main inspiration from the depressed condition of the world's trade. It owes its genesis to the fact that each country tries to retain as much as possible a share of the dwindling quantum of trade and to prevent foreign countries from cutting into the domestic production as far as possible. The logical absurdity of this position is relieved by trade treaties which have recently provided all countries with a bargaining power with a way out of the present economic *impasse*. But when once the full implications of the method of carrying on the world's trade through a system of trade treaties are realised, it will be difficult for the Government or even the mercantile interests of a country to abjure such an important weapon, the weapon of using its bargaining power, for the advancement of its own economic interests or strength. The case for trade treaties seems thus to be not an incident of the present only but one which is likely to determine the economic policy of every country in the near future. The earlier the start in the planning of trade, the stronger, therefore, will be the future economic position of the country or countries concerned. If India does not bestir herself in time, she will be left behind in the race for economic consolidation—that is what is aimed at at present

—and will soon find herself at a disadvantage in gathering sufficient strength to face the competitive power of the countries she will have had an earlier start in the race.

In the matter of trade planning, India has, of course, certain unique advantages. The vast size of the country, her teeming millions, the potentialities of a vast purchasing power, the raw materials in which she abounds,—all these will always offer a temptation to the manufacturing and commercial interests of other countries to enter into trading relations with India, which any far-seeing Government should be able to exploit to the fullest extent and secure an advantageous position for our own exporters in the resulting bargain. India has another point of advantage in the fact that she has a home market for local producers and manufacturers which, if properly developed, would reduce our dependence on foreign markets to the minimum. I say “to the minimum”, because, there is a factor in the situation for which it would be necessary for us to maintain a surplus balance, of a certain size, of exports over imports. The size of this balance is determined by what are called the “Home Charges” which are charges payable in England for meeting certain obligations to which India has committed herself. These charges include leave allowances and pensions of officers who have served (or serve) India and are resident abroad, remittances by Indian officers to the United Kingdom (and elsewhere) for the education of their children etc., the cost of the office and establishment of the High Commissioner for India in London and of other offices located in London, the army and marine effective charges (such as the capitation charges), cost of stores purchased in England and abroad, the service of foreign loans and the like. In all, our foreign obligations involve a remittance of from Rs. 50 to Rs. 75 crores every year to London which is the principal paying-out foreign centre for India. This sum India should preferably raise by creating a trade balance equal amount, and to this end, if not for any other, India must to interest herself in the state of her foreign trade. We can go even further and point out that so long as the necessity of remitting annually this huge amount of money to London will remain, the Government of India, sooner or later, will have to take deliberate steps to conserve our export markets, and if possible to improve upon them, for otherwise they would find India being gradually ousted from her existing markets by her more enterprising and

business-like rivals. That it is not a remote contingency I shall presently show. Sufficient it is to say here that if the Government of India do not take up the matter of planning her foreign trade at their earliest opportunity, they will soon have to pay a heavy price for their attitude of negligence.

Before, however, the actual position of India's trade is studied, it may be convenient if certain principles of regulating the future trade of India are clearly distinguished. That exports pay for imports is a well-established economic doctrine that need not be disputed. But it becomes an entirely different matter if on the supposed strength of this principle it is argued that the economic salvation of India lies in expanding the basis of her trade with foreign countries. Exports do pay for imports; the heavier the imports, the greater will be the necessity of meeting the value of the imports by means of larger exports. But the argument cuts both ways. In other words, if India exports more, she will also have to take more imports or gold will flow in. Secondly, the principle that exports pay for imports does not bear any reference to any precise quantity that must be exported or imported. To put it in other words, as long as the exports pay for the imports, or *vice versa*, it is immaterial whether the quantity exported or imported is large or small. Thirdly, if the principle suggests that the position of a country in the world's market is the only criterion by means of which the soundness of its economic system is to be judged, it may be pointed out that a commodity may enjoy a large domestic market without figuring in the foreign trade of the country while another commodity may have a substantial international market and yet there may be over-production in the domestic market involving in some cases the necessity of even destroying a part of the output in order to keep up the price at an artificial level. Surely no one would suggest that the second contingency pictured above is more desirable than the first. Further, the character of the international trade of a country must be carefully analysed before rushing to the conclusion that a larger participation by the country in the world's trade is *ipso facto* a desirable development. A country that exports raw materials and partly finished goods and receives them back in the shape of finished commodities cannot certainly be congratulated on the character of her trade. This kind of trade involves a double loss to the country concerned. The last depression

has revealed the essential weakness of a country having such a character of trade, for the prices of agricultural products have suffered much more than the prices of manufactured commodities. Finally—we have again the case of India in view—the question of the Home Charges should be decided on its merits and not mixed up with that of India's trade position. The usual argument that India enjoys normally a favourable balance of trade on account of the fact that she must create a surplus wherewith to pay for the Home Charges is a fallacious one. In the first place, the liability of the Government of India to pay the Home Charges stand in need of a careful re-examination from the point of view of national interests. Secondly, India's excess of exports and imports is derived more from the character of India's foreign trade than from the so-called necessity of providing a surplus wherewith to pay for the Home Charges. It is, however, to be recognized that until the question of the Home Charges be satisfactorily settled, it would continue to be a factor of considerable importance in the regulation of India's trade in merchandise.

These are some of the principles which require to be considered in the future planning of India's trade. The object of the planning will be to provide India with assured and stable markets abroad which will yield a sufficient balance on the credit side so as to enable her to meet her foreign obligations and which will leave Indian industry free from the uncertainties and disturbances that follow a tariff war and other questionable devices to capture trade such as exchange dumping. Another point to be considered is that India requires to build up a strong gold reserve as the Hilton-Young Commission had suggested for financing a scheme of gold standard for India. We must also have to remember, that as suggested above, a fully industrialized India contemplates a radical change in the character of her present foreign trade. The future planning of trade must, therefore, allow the necessary scope for the development of India's manufactures and assure an adequate supply of the raw materials and capital equipments necessary for the purpose. When the plan is fully developed the items that will figure on the debit and credit sides of our balance of trade would be vastly different from those that figure in the existing foreign trade of the country.

§ 2

THE BALANCE OF TRADE.

So far it had been customary for India to enjoy a fairly comfortable balance of trade which made it easy for the Government of India to arrange their remittance programme without putting any strain on the exchanges. During the last few years, however, the position has not been so easy as will appear from the following table :

TABLE

Balance of Trade in Merchandise
(*Figures in Crores*)

Pre-War Average	Rs. 78.27
War Average	" 76.31
1929-30	" 78.98
1930-31	" 62.05
1931-32	" 34.83
1932-33	" 3.36
1933-34	" 34.76
1934-35	" 25.56
1935-36	" 30.53
1936-37	" 77.77
1937-38	" 43.19

It will be seen that since 1931-32, the balance of trade in merchandise has been unable to produce enough surplus to meet the Home Charges. Or rather, we should say that India would have been unable to meet her need for remittances to the fullest extent and maintain the rate of exchange if it were not for the huge quantities of gold that India has been exporting since that year. During the past few years India has exported a huge quantity of gold, a fact which not only enabled her to meet the Home Charges but served, in addition, to strengthen her sterling balances considerably. The gold exports were, however, an entirely fortuitous aid to the Government of India for meeting a critical situation and it is obvious that it would be risky to bank on such exports at every crisis for playing the part of a trade balance *vis-a-vis* the Home Charges. There has already been a falling off in these exports and it may be recalled that there was recently a heavy strain on the sterling resources of the Government to finance their Ways and Means position. It is to be remembered in this connection that India has very little in

in the way of "invisible" exports such as banking and shipping profits, or services, foreign investments etc., which might help her to meet her position as a debtor country without an overmuch dependence on a "visible" balance of trade, that is, a trade balance in merchandise and treasure. Unfortunately, there is little indication that in the immediate future, so far as we can foresee, there would be development of banking and of the shipping industry or the growth of investments to an extent that would make it unnecessary for India to maintain a large balance in our foreign trade in merchandise. Willy-nilly, we will have to secure an excess of exports over imports of merchandise to the value of from Rs. 50 to 75 crores. The actual position of our trade balance as disclosed in the table given above shows that it will be no easy task to secure that balance, if the present state of affairs continues.

Measures usually adopted for the encouragement of exports may be various, e.g. State subsidies, establishment of trade embassies, improvement of the quality of products, improvement of grading of the goods exported and of the marketing organization generally, propaganda and publicity—and in the last resort, by exchange manipulation. The chief instrument for checking imports is the tariff. The system of exchange quotas recently adopted by some European countries (e. g. Germany) has also the same effect. Deflation of currency by bringing about a state of low prices also checks imports and stimulates exports, but it is a dangerous device in other respects and is at best a temporary palliative. So also are tariffs a dangerous instrument of national economic policy. They create vested interests, and if sufficiently high, invite rival firms to set up business in the country imposing the tariffs and operate from behind the tariff wall. Moreover, the mechanism of a system of tariffs and its effects on the social and economic well-being of a country are of a complex kind. The most serious objection, however, against tariffs is that they provoke retaliation in the countries that are adversely affected by the tariffs. So far as India is concerned, a policy of encouraging exports or of checking imports has its well-known limitations. The foreign trade of India is largely in the hands of non-Indian firms and agents operating in India or abroad. It is only recently that the policy of establishing trade embassies in the different commercial centres of the world is being adopted as part of State policy. Besides the High Commissioner in London, a Trade Commissioner

is stationed at Hamburg and another has been posted in Italy, all these being Indlans. But the lack of banking facilities and of credit operate as serious handicaps in the way of Indian exporters. So far as tariffs are concerned, the position is no less difficult. India has accepted tariffs as an instrument of protection but not as an instrument for deliberately shutting out imports. The underlying principle of the scheme of discriminating protection adopted by India is to bring about a state of fair competition between the indigenous product and its foreign rival, not to eliminate the foreign rival altogether. In some cases, no doubt, there has been a serious diminution of imports, as for instance, in the case of sugar. Of course, in the prevailing state of *swadeshi* sentiment, a protective tariff is bound to result in a considerable reduction of imports; but it is significant that we are still importing large quantities of cotton goods and iron and steel which are protected industries. In one case at least, a protective tariff has stimulated imports of the non-protected variety, namely, in the case of machinery and mill-work. This is, of course, a concomitant of the industrialisation of India. In short, the point is that the usual measures so far adopted for securing a trade balance are unsatisfactory, being one-sided in their incidence and uncertain and cumbrous in their operation.

§ 3

NECESSITY OF AGREEMENTS.

A Trade Agreement or Convention, however, solves many of these uncertainties and other difficulties. It is the product of mutual goodwill and is based on mutual consent. Since in every country, there are more or less reliable statistics of foreign trade and since for customs purposes, the flow of the trade is already under effective oversight, it lends itself easily to State regulation and is simple and definite in its operation. The most difficult part is the bargain itself, because each country tries to secure the most advantageous terms of trade with due regard to its own economic position. India, as we have seen, is, from many points of view, in a position of advantage. Almost all countries which have a surplus of goods to dispose of will be anxious to cultivate her goodwill; and if the negotiations are carried on with due circumspection, there is no reason why the problem of securing an adequate balance of

trade should not be solved for some time to come. The two chief favouring factors in these deals will be that the world is in need of India's raw materials and that India is in need of many of the imports for which she cannot at present offer any effective substitute. This position will, of course, change with the industrialization of India for that would mean that India will utilize most of the raw materials at present exported. But the complete industrialization of India will yet take sometime to come; and in the meantime, a higher standard of living of the Indian people will continue to offer opportunities to importers to take advantage of the Indian market. And, in any event, if due to the industrialization of India, she exports less of raw materials to other countries, she will also need to import less for the same reasons. The position, if carefully foreseen and planned, need not affect the net trade balance which it is the purpose of our Plan to secure, particularly as the size of our foreign obligations is also due to shrink in time, for many of the important items now constituting the Home Charges will disappear in the future with the progress of Indianization and the development of the local capital market.

We have argued so far so as to suggest as though the need for meeting the cost of the Home obligations is the only desideratum for maintaining a surplus trade balance of a certain size. This is true so far as it represents a pressing necessity, and so far as it is the most important single consideration affecting the problem of our foreign trade. Looked at, however, from the general point of view, we find that a certain amount of trade between countries is inevitable. No doubt, the forces of economic nationalism operate towards making every country as nearly self-sufficient as possible, particularly with regard to key industries and articles of vital necessity, the supply of which may be cut off during a war. But even allowing for a wide sweep for the play of these forces, nobody, we daresay, will advocate the growing of grapes in Scotland or jute in Sahara. And so if people are to eat grapes, and if things are to be packed in jute, these must be bought in exchange of commodities which the growers of grape or jute respectively might stand in need of; or money will flow from one country to another. But the difficulty is that there are a large number of commodities which are widely used and which can be produced or manufactured in several competing

countries. So, if India has a surplus of cotton to buy her other requirements with, so have other countries. Here comes the necessity of striking a mutually advantageous bargain by which India will be able to assure for herself a share of the cotton market of the world, agreeing to take in return goods which she either does not produce herself or in the production of which she is in a comparatively less advantageous position. A dwindling quantum (and value) of trade together with keen competition among rival producing countries has made it inescapable for every country desiring to sell her goods abroad—whether for securing a trade balance or for maintaining the country's purchasing power and standard of living—to come to a sort of understanding between itself and its customers on a reciprocal basis. In other words, trade treaties will be an inevitable feature of the new economic understanding. India's need for trade treaties is not the least urgent among all the countries of the world. It is, indeed, forced on her by the fact that she must have a considerable trade balance to her credit; but that is not the only consideration. India has a surplus of production over consumption in many directions, e.g. jute, cotton, oil-seeds etc. These she must export and thereby put additional purchasing power in the hands of the community which will serve to raise the standard of living in the country. In sugar also, she will likely to have soon an exportable surplus. This she must be able to dispose of, that is, sell to other countries. In short, trade planning is a necessary incident of the present situation and cannot be put off any longer without serious detriment to the interest of this country. Its purpose will be not to maintain our existing market and recover our lost ones, but also to discover new outlets for our goods.

§ 4

PRESENT TRADE POSITION.

That there is real urgency in the matter will be borne out by the table which we have already cited of India's dwindling balance of trade in merchandise. From a value of Rs. 78,98 lakhs in 1929-30, it fell to a value of Rs. 25,56 lakhs in 1934-35. The whole of this fall is not accounted for by the fall in price alone. There is clear evidence that the different countries of the world are taking less of India's goods than they used to formerly. The following tables of our trade in merchandise with the different countries of

the world with whom we have important trade connections will not only justify this conclusion and point to the seriousness of the same but also furnish evidence of the Government's apathy in the matter. The figures are in lakhs of rupees, the negative sign denoting an adverse balance.

TABLES

UNITED KINGDOM.

	Imports	Exports*	Balance
Pre-War Average	91,58	56,30	-35,28
War-Average	83,56	69,62	-13,94
Post-War Average	1,46,43	73,04	-73,39
1932-33	48,80	37,94	-10,86
1933-34	47,63	48,20	-57
1936-37	43,96	60,40	16,44
1937-38	51,96 *	64,43	12,57

BRITISH EMPIRE (EXCLUDING UNITED KINGDOM).

Pre-War Average	9,96	35,76	25,80
War-Average	13,08	46,16	33,08
Post-War Average	19,11	52,08	32,97
1936-37	39,75	30,94	-8,81
1937-38	43,27	34,68	-8,59

U. S. A.

Pre-War Average	4,49	16,90	12,41
War-Average	10,29	26,75	16,46
Post-War Average	21,64	36,26	14,62
1932-33	11,25	9,99	-1,26
1933-34	7,18	14,38	7,20
1936-37	7,45	19,02	11,57
1937-38	12,88	18,73	5,85

JAPAN.

Pre-War Average	3,64	16,86	13,22
War-Average	15,41	25,20	9,79
Post-War Average	17,48	40,31	22,83
1932-33	20,48	14,05	-6,43
1233-34	16,36	12,78	-3,58
1936-37	18,89	28,05	9,16
1937-38	22,19	18,51	-3,68

*Include exports of foreign merchandise from India.

GERMANY.

	Imports	Exports	Balance
Pre-War Average	9,35	22,36	13,01
War-Average	1,04	2,04	1,00
Post-War Average	7,16	14,86	7,70
1932-33	10,39	8,66	-1,73
1933-34	8,88	9,82	94
1936-37	11,56	9,00	-2,56
1937-38	15,31	10,53	-4,78

FRANCE.

Pre-War Average	2,21	14,82	12,61
War-Average	1,85	10,02	8,17
Post-War Average	2,37	14,37	12,00
1932-33	2,04	8,12	6,08
1933-34	1,51	7,43	5,92
1936-37	1,07	8,18	7,11
1937-38	1,58	5,29	3,71

ITALY.

Pre-War Average	1,45	7,08	5,63
War-Average	1,73	8,77	7,04
Post-War Average	2,47	9,63	7,16
1932-33	3,95	4,73	78
1933-34	2,91	5,82	2,91
1936-37	1,16	4,94	3,78
1937-38	2,57	5,45	1,88

CHINA.

Pre-War Average	1,58	8,74	7,16
War-Average	1,93	4,56	2,63
Post-War Average	3,14	10,98	7,84
1932-33	2,95	3,58	63
1933-34	2,23	4,46	2,23
1936-37	1,32	97	-35
1937-38	98	1,99	1,01

RUSSIA.

Pre-War Average	22	1,94	1,72
War-Average	10	2,74	2,64
Post-War Average	12	...	-12
1932-33	36	34	-2
1933-34	1,64	8	-1,58
1936-37	1,32	42	-90
1937-38	73	56	-17

CEYLON.

	Imports	Exports	Balance
Pre-War Average	73	8,24	7,51
1936-37	1,70	4,86	3,16
1937-38	1,66	5,60	3,94

BELGIUM.

Pre-War Average	2,76	11,97	9,21
Pre-War Average	38	1,10	72
Post-War Average	4,64	11,25	6,61
1932-33	3,42	4,04	62
1933-34	2,66	4,50	1,84
1936-37	2,43	7,11	4,68
1937-38	3,27	6,00	2,73

The conclusions which may be drawn from these figures are clear. One conclusion is that the favourable balance of trade that we enjoyed with some countries has since been turned into an adverse balance or into such a severely reduced surplus as is incapable of being explained on the ground of the trade depression alone. Another conclusion is that the rate of diminution of our exports has been more pronounced than that of imports. Since we are considering the value of our trade in these figures, it might be argued that the greater drop in the figures of our exports is due to the fact that the fall in the price of primary products (which constitute the bulk of our exports) has been greater than the fall in the prices of manufactured goods (which constitute the bulk of our imports). Here again, the actual figures cannot be explained on the score of this argument alone, namely, that agricultural prices have fallen more than the prices of manufactures. Thus while the price level of our exported articles fell in March, 1934 by 4.9 p. c. compared to December, 1931 (Indian Index Number Series, 1873), the total value of our exports diminished from Rs. 220 crores in 1930-31 to Rs. 146 crores in 1933-34, a drop of about 30 per cent. Further, as regards imports, the price level of imported articles fell in March, 1934 by 13.1 p. c. compared to December, 1931, so that the percentage fall has been actually higher than that in the exported articles. There could, therefore, be not the least doubt that the loss of our export markets is due to the fact that we are losing ground to other countries. The purchase of cotton by Japan, of hides and skins by Germany, the development of the German rayon industry, the economic consolidation of her

colonies by France which is already affecting the trade in oilseeds, cotton, hides and skins, rice, tea and manganese—these are so many instances of how India is losing or stands to lose valuable custom which she has hitherto enjoyed. It will be a suicidal polity in these circumstances to rest on one's oars.

One of the most significant tables quoted above is that relating to our trade with the British Empire countries (excluding the United Kingdom). It is to be noted that since 1935-36, our favourable balance of trade with these countries has become adverse. In 1935-36, the adverse balance was as high as Rs. 11,22 lakhs compared to the post-war average of Rs. 32,97 lakhs in favour of India. There was a slight improvement during the two following years, the excess of imports over exports being still in the neighbourhood of Rs. 9 crores. These figures provide an interesting commentary on the Ottawa Inter-Imperial Trade Agreements. On the other hand, it is a matter for congratulation that the adverse character of the Indo-British trade has now resulted in a small surplus in favour of India. We have, however, yet to depend on our trade relations with the non-Empire countries to find almost the whole of the funds necessary to meet our sterling obligations. This is an inherently undesirable position.

It will be observed that in the list of the countries quoted above, with the exception of China and Japan, the case of the other Asiatic countries has not been presented. It may, however, be mentioned that these countries present almost a virgin field for exploitation by manufacturing countries. As autarchical tendencies develop in the continental countries of Europe, international trade will have to seek new channels and new markets. In other words, the time has come for a fresh colonial enterprise, for the discovery of new colonies, not necessarily at the point of the sword, but through goodwill and economic partnership. India is most favourably situated in this respect because she occupies a commanding position in the whole of the continent of Asia. It does not require a prophet to say that if the economic resources of India are fully exploited and the immense bargaining strength of the country utilized, she will before long be able to challenge the supremacy of Japan in the East. Reference in this connection may be made to the visit last year (1938) of a Trade Mission from Afghanistan. Preliminary talks are understood to have taken place between His Excellency Abdul Majid

Khan, Minister of Commerce in Afghanistan and the Government of India regarding the scope of the trade treaty between the two countries. The fact that Sardar Nadjib Ullaha, Director-General of Political Affairs, Afghanistan accompanied the Trade Mission was an indication of the importance that the Government of Afghanistan attached to the exploratory talks. In an interview with a representative of the Press, he discussed the grievances of Indian's trading in and with Afghanistan and emphasised that the Mission had come to India not merely to clear up any existing trading difficulties but to broaden and strengthen the basis for the development of Indo-Afghan trade generally. He repudiated the charge that there was any discrimination against Indian traders as such and pointed out that the trade between the two countries had all along been absolutely free.* Statistics of Indo-Afghan trade show that fruits form the most important export to this country, the other commodities being leather, skins, textiles, plants, wool and rugs, the total value of the trade being Rs. 72,10,622. In addition it is estimated that Afghanistan spends about Rs. 30 lakhs annually on transportation rentals, port dues and other commercial commitments involved in the transit trade through the country. Indian exports were valued at Rs. 76,06,929 and included tea, iron and woollen manufactures, soap, silk, medicines, cement, petrol, oils, cotton piecegoods, threads and embroideries. As a matter of fact, the Director-General of Political Affairs was hopeful of a large extension of trade between the two countries and it is essential that the possibilities of such extension of trade not only between India and Afghanistan but also of India and other neighbouring countries should be fully explored when the formulation of a national trade policy is taken in hand.

§ 5

ORGANIZATION AND POLICY.

What should be the instruments of a national trade policy? We have at present an irresponsible Ministry of Commerce at the Centre. It is suggested that a National Board of Trade should be appointed for the purpose of looking after India's trade interests. The Board will have to function within severely restricted limits. These

*See the *Statesman*, December, 20, 1938.

limits are inherent in the political subjection of this country. India has practically no right to formulate, nor the power to execute, a national trade policy. The well-known methods by which trade between one country and another may be regulated are not open to India. In fact, a trade policy for India will constitute the weakest plank in the national economic platform of India in future. Subject to these limitations, however, it is essential that India should proceed immediately with the planning of her trade.

The avowed purpose of trade agreements is to eliminate the uncertainties of a prevailing trade position. From the abstract point of view, trade is best promoted, other things being equal, when it is free. But the saving clause, other things being equal, is inoperative in the case of most countries, certainly not the least in the case of India. It has already been remarked that the exports and imports of India show an unhealthy relation. While the industrial policy of the country will somewhat correct this unhealthy relation, it will create other problems for the country to solve in then sphere of foreign trade. The reservation of trade already existing and the securing of new markets together with the co-ordination of competition constitute the three-point programme of a national trade policy. A system of bilateral agreements seems inescapable in the circumstances that affect the world trade. It should be based, where possible, on a system of complementary production. In fact, such agreements seem to be the only way by which a general reduction of the existing tariff barriers can be brought about. To that extent the evolution of a national economic policy based on the principle of reciprocity seems to be a necessary stage in the world's return to normal trade relations. In India's case the situation is complicated by the fact that special protection is necessary to safeguard the development of her nascent industries. The requirements of India's foreign trade must always be subordinated to those of the expansion of her internal market.

The formulation of a national trade policy cannot, finally, be isolated from its inter-relations with the other aspects of our national economic policy. Thus, trade and tariff act and react on each other ; it is through tariffs that trade is principally regulated. If the two are not properly co-ordinated, inconsistencies might arise. A recent instance has been supplied by the decision of the Government of India to impose a duty on the imports of foreign cotton,

almost immediately followed by the announcement of a trade agreement between India and the United Kingdom in which the duty imposed on cotton appears to be a double handicap to Indian textile interests. Similarly, trade and transport are mutually related. A certain policy for the development of trade may be defeated by movements of freights in the opposite direction. The Board of Trade will consequently have to act in constant consultation with the authorities regulating the transport and tariff policies. It is, in fact, inherent in the basic assumptions of economic planning. The whole question of economic development must be regarded as a single question inspired by a single aim. To the fulfilment of that aim the energies of the different planning authorities must be strenuously directed, and all the units of the economic life of the country must move in unison, as a disciplined organization having a clear aim before it and the power to fulfil the aim.

CHAPTER XXV

TRANSPORT CO-ORDINATION

§ 1

THE PROBLEM OF CO-ORDINATION.

The planning of trade and industry will not be complete without a corresponding planning of transport. Considered in its most comprehensive sense, the problem of planning of transport includes all forms of transport—roads, railways, water and air. Of these forms of transport, air transport is used only for a few specific purposes and may for the present be excluded from the scope of planning. The road, the railway and the river—these are, however, very common means of transport and the problem of co-ordinating these three forms of transport has to be faced from the very beginning. Of these three forms of transport, again, the co-ordination of the road and the railway is generally considered to be the more urgent one.

One of the difficulties that will have to be faced with regard to the problem of co-ordination is that the control of these forms of transport rests in different hands. Railways are a central responsibility. Roads and rivers, on the other hand, are each a provincial responsibility; navigation in inland waterways being included in the Concurrent List. In other words, any plan of co-ordination of the different forms of transport should be based on the fullest agreement and co-operation between the Centre and the Provinces. We shall in this chapter state the problem in its barest outline. We shall begin with the problem of the co-ordination of the road and the railway.

§ 2

CONDITIONS OF THE PROBLEM.

It has been estimated that in India, there are 2,00,000 miles of road of which 1,40,000 are unmetalled, which means that in a country of India's size, roads are yet few and far between.

The following tables would show the comparative backwardness of India in this respect.

TABLES

Comparative statement showing road mileage to the square mile.

Japan	...	...	...	3'00
U. K.	...	...	...	2'00
France	...	...	...	1'89
Germany	...	...	...	1'19
Poland	...	...	...	1'12
U. S. A.	...	...	...	1'00
British India	...	...	...	0'18

Comparative statement showing road mileage per 1,00,000 of population

Australia	...	...	...	8213
Canada	...	...	...	5814
U. S. A.	...	...	...	2853
France	...	...	...	1392
Japan	...	...	...	684
Poland	...	...	...	623
Germany	...	...	...	565
Russia	...	...	...	547
U. K.	...	...	...	277
British India	...	...	...	142

Nor has railway development been adequate up till now for meeting the needs of India. Messrs. Kirkness and Mitchell point out in their Report that in certain provinces, less than one-third of the whole area having a density of 100 per square mile and over is not served by any railway. In those areas, there are generally about 20 to 30 square miles of area for every mile of railway. It is thus evident that there is yet a long time ahead of the development of both roads and railways.

That being the case, it is nothing but a total absence of

co-ordination which has been responsible for the fact that about 30 per cent of the metalled roads in India are parallel to railways and that 48 per cent of railways has metalled roads parallel with them and within ten miles. This means, in fact, that while there are vast stretches of the country yet unserved by roads, there is a needless duplication of transport facilities in many parts of the country. Motor transport has proved its utility and the public have shown a preference for these vehicles. Where the preference is based upon distinct points of superiority or advantage compared to the railways it would be bad public policy to eliminate it altogether or to subject it to discriminatory restrictions simply because it competes with the railways in certain areas, or to burden it with heavy penalties that might ultimately have the effect of strangling a developing industry. The industry has proved its worth by filling up an important gap in the economic life of the Province and a considerable amount of Indian capital and enterprise have been invested in it. The handicaps such as they exist are onerous. Road transport is subject to a heavy load of taxation and the contribution that it makes to central, provincial and local taxes has been estimated at Rs. 8'30 crores annually. The petrol tax, at present 8½ annas per gallon, is a heavy charge on running expenses. There are some who argue that one great advantage in favour of motor transport is that it has to pay no rent on, nor meet the cost of, the track that it uses. This argument was first raised in connection with the question of the competition between tramway and omnibus traffic in Calcutta. While there is an element of truth in this argument, we must not lose sight of the fact that the proceeds of the two-anna additional duty imposed on petrol per gallon in 1931 together with the surcharge of six pies imposed in September, 1931, are now credited to the Road Development Fund. The proceeds exceeded Rs. 3 crores in 1932. If this amount is deducted from Rs. 8'30 crores, we have a net contribution of at least Rs. 5 crores by motor transport to the general revenues of the State. The railways have only lately become profit-earning concerns and if all the privileges and concessions enjoyed by the railways are taken into consideration, the debit side is likely to outweigh the credit side of the account. That need not involve any reflection on the efficiency of the Indian railways. Railways after all are national concerns and the strict principles of a commercial organization cannot be uncritically applied

to the administration of railways. Yet it is a fact that the return on the capital invested in Indian railways does by no means compare unfavourably with the profits earned by British or American railways. The real point at issue is that while the State has taken a good deal of interest in the prosperity of the railways, the road interests have been left in comparative neglect. Apart, however, from the recent institution of the Road Development Fund there has been little evidence of any active encouragement offered by the Government for the development of the roads and of the road transport.

It must, however, be made clear that I am not playing the role of an advocate for the road interests *vis-a-vis* railways. It would not be an exaggeration to say that road transport is in a chaotic state. Though motor transport is steadily changing the economy of the interior, it at present yields all the evils of unregulated competition. In some cases, transport pools or combines have been formed, but the majority of the roads opened to motor traffic are subject to cut-throat competition. This invariably results in a deterioration of the service and sets up a vicious circle. The lower rates do not benefit anyone in the long run; to the railways they are particularly injurious, because they have to maintain a certain standard of efficiency, safety and convenience together with regularity of service. It is in respect of these essentials of a public utility service that reference is made now and then to the necessity of the "equalisation of conditions" as between railway and motor transport. Such equalisation can only be brought about by a co-ordinating authority, with local assistance, where necessary, to enforce a fair standard of service.

§ 3

NEED OF A SURVEY.

Since a knowledge of the facts and data must precede the setting up of any scheme of co-ordination, a road census is an essential prerequisite for the purpose. There must be accurate surveys and statistics with regard to concentration of population and traffic, possibilities of the growth of both, topographic influences including the effects of climate, existing systems of roads and drainage, and a final picture of the system to be ultimately developed. The parts must fit in with the scheme of the whole, and at the same time it must be effectively related to other forms of transport such as railways

and waterways. The survey of the soil would constitute an important part of the census because the construction of good roads and their maintenance at economic rates would depend not only on the flow of traffic over them but also on the nature of the soil over which the roads are to be constructed. These problems are further complicated by the effect of the monsoons and the liability of particular parts of the country to periodical floods and the rapid advent of motor traffic in the place of animal-drawn carts. These considerations point to the extreme care and judgment to be used in the construction of roads in this country. The construction of experimental sections will give us an idea of the cost per mile either of new construction or of improvement. The extra cost to be incurred to meet the demands of the Monsoon will be to some extent offset by the cheapness of labour. The same applies to the clearing of jungles. Where labour is dear and is not obtainable during the agricultural seasons, the employment of a grader hauled by a Caterpillar tractor for grading purposes, and the use of the Road Drag and the Triple Roller for smoothing out the road where cut up during the rains, may be quite economical if effectively employed. Thus a report by Mr. Little, Chief Engineer to the Government of Assam, stated that a complete road unit consisting of one Caterpillar Twenty Tractor, Twenty Planer, a Three-way Road Drag and a Triple Roller, costing about Rs. 12,000, will look after 50 miles of road, the cost working out at an all-round figure of Rs. 200 per mile per year, or Rs. 5-9-0 per mile for treatment at any time if the unit is made to pass over the road once a week during the rains and once a fortnight during the cold weather. This refers to a *Kutchha* road, and the figure is interesting because most of the roads in India are of the *Kutchha* type, and metalled roads would be considered too expensive in many parts of the country.

It has been estimated that the cost of constructing a mile of road compares favourably with the cost of constructing a mile of railway. Yet for the last half a century, the Government have paid more attention to railways and railway traffic rather than to roads and road traffic. In seventy years, over 37,000 miles railway line have been laid—not a mean achievement. But it is a matter for regret that during all these years, not only has no new construction of roads worth the name been undertaken, but the existing roads have been neglected with the result that many of them have

deteriorated to an extent that makes traffic over them difficult and dangerous. Another phase of the want of foresight on the part of the Government and the railway builders is presented by the fact already mentioned that a considerable part of railway mileage lies alongside of roads resulting, with the growth of motor transport, predominantly an indigenous enterprise, in wasteful competition and a sinister clash of interests. If this competition is allowed to run to any length, it would ultimately result in weakened railway reserves (or larger deficits) and a stangulation of a rising industry which has given employment to thousands of Indians and filled a distinct need.

Lest it be suggested that only those roads which would bear their cost should be constructed, it might be pointed out that roads are very seldom remunerative in the sense that railways are or can be. In the United States, for instance, it has been calculated that 10 per cent of the total public road mileage carries about 75 per cent of the total traffic. Of course, with depleted finances, the course and the possibilities of traffic would determine the direction and extent of road construction in the initial stages. For this, a traffic census would be necessary to indicate the main lines of road construction. It would be advantageous if the possibilities of the development of motor traffic were foreseen and the roads built and surfaced accordingly. As yet, motor traffic is hardly used for the movement of crops or merchandise in the mufassil areas, but if there are good roads, there is no reason why motor lorries should not replace the bullock cart as a carrier of merchandise from the village to the market or the railway station. The bullock cart itself has to be renovated if such road construction is to be encouraged, for there is hardly any road surface that can stand up for any length of time to the devastating effects of the existing bullock carts. A suggestion has been made that the wheels of the bullock carts should be fitted with pneumatic tyres. We do not know if the cart-owners would be able to afford the cost. If not, it would still pay the local authorities to grant a small subsidy to each bullock cart for the purpose.

§ 4

ROADS AND RAILWAYS.

These are, of course, details of road construction, but these details give us an idea of the many difficult problems that we shall have to negotiate before a well laid out system of public and feeder

roads becomes a reality. Not the least of these difficulties is presented by the problem of the co-ordination of roads and railways. We have already complained of the want of foresight on the part of the Government and the railway-builders in allowing a considerable part of railway mileage to run parallel with roads. The difficulty of rail-road co-ordination is not, of course, peculiar to India. It has had to be faced in other parts of the world. In fact, sooner or later, transport has got to be looked upon as one entity because whatever its form it serves a common need and naturally it would save a good deal of the present waste of effort and money if each area of the country had a system of transport best suited to it consistent with safety and economy and not a multiplication of systems growing haphazardly, one part of the country being served with a variety of different systems, duplicating each other, while another part is completely starved. Investment, it is obvious, would seek quick returns and so we find competition for traffic where it is already developed until the point of equi-marginal returns is reached, and absolute inadequacy of communications in areas where traffic has yet to be developed. Pioneering enterprise in road building as much as in the construction of railway lines requires special encouragement, and such encouragement can be given only when there is a central authority which is empowered to make grants against assets to be created as well as against existing assets. Thus, if in any particular area motor transport serves the needs of the community better than railway transport, then the duplication of motor and railway transport would be wasteful competition and it would be a net gain to the community if the investment in unwanted railway facilities were diverted to serve the needs of an area where such facilities were wanted. As a matter of fact, it would be quite a wrong idea to start with the assumption that the road and the railway are necessarily competitive systems of traffic, and that public advantage lies in promoting either the one or the other. For long distances, there is at present no substitute, from the point of view of economy, safety, comfort and regularity, for a railway system conducted on up-to-date lines, while, as feeders to railways or for short distance haulage which must be elastic and convenient, motor transport is distinctly superior to railway transport with its complicated machinery of control and co-ordination. A railway line running parallel to a road is thus not in itself a source of waste. It all depends on

the manner the lines are worked or the service that each offers. Public advantage would be the test in either case. Thus, at least in one case, motor transport can offer serious competition to railway transport which ultimately would be injurious to public interest. The railway charges what the traffic can bear. The carriage of coal, for instance, at particularly cheap rates (compared to the actual cost of its haulage) is possible only because the railway charges high freight on such forms of traffic as can bear it, such as the carriage of gold. Motor transport is not suited to the carriage of heavy and comparatively unremunerative traffic but it can certainly make a bid for the more valuable traffic in goods underselling the railways. If, on account of this competition, the railway loses its most remunerative traffic, it would not be able to offer economical rates for goods like coal, and if the rates are put up to any considerable extent, the traffic might cease altogether. That is not altogether a desirable thing to happen, and in order that it might not happen, there must be regulation and co-ordination.

The United Kingdom offers two remarkable instances of experiment with traffic co-ordination. One has followed the recommendations of the Salter Report, and the other, more thorough-going, though operating over a more restricted field, is the co-ordination of London's transport through the London Passenger Transport Board. Neither of these ventures is many years old, and so it would be premature to try to get a measure of their success or failure. But the two schemes would repay a brief description here, in the sense that they would give us an idea of what would be the exact implications of transport co-ordination.

The bigger measure which applies to the United Kingdom as a whole maintains the integrity of the railway systems but imposes a system of licensing on all mechanically-propelled vehicles carrying goods for hire, with the exception of certain vehicles used exclusively for agricultural purposes. Three sets of authorities are created, namely, the licensing authority, the Transport Advisory Council and the Appeal Tribunal. The licensing authority would issue three classes of license *A*, *B* and *C*. The '*A*' license authority would issue three classes of license *A*, *B* and *C*. The '*A*' license permits the holder to carry for hire without restriction of class or locality; the '*C*' license is also unrestricted as to the class of

goods and the locality, but permits the holder to carry only his own goods; while the 'B' license which permits the holder to carry both his own and other persons' goods for hire imposes certain restrictions as to the class of goods to be carried and the locality in which the vehicles are to be used. Certain conditions are attached to the licenses, which include the observance of regulations as regards fitness of vehicles; maximum loads and speeds; provisions of the Road Traffic Act of 1930 regarding hours of duty for drivers; the keeping of records as to journeys, hours of work, loads etc. (except in certain cases where the licensing authority is permitted to exercise a dispensing power); and compliance with a "fair wages" clause (which is meant for A and B licenses only). Non-compliance with any or all of these conditions might entail the forfeiture or suspension of such licenses subject to appeal before the Appeal Tribunal. This Tribunal, consisting of three members appointed by the Minister, one of whom (the Chairman) must be a person of legal experience, will hear appeals not only from aggrieved licensees but also hear objections, if any, against the application of any party for a license. Objections may be made on two grounds: (i) that transport facilities in the locality which the applicant intends to serve are, or if the application is granted, would be, either generally or in respect of any particular type of vehicles in excess of the requirements of that locality, and (ii) that any of the conditions attached to a license held by the applicant has not been complied with. The duties of the Transport Advisory Council would include the collection and collation of accurate data relating to transport and the working out of suitable schemes for the proper co-ordination of road and rail transport. The Council must be representative of all the interests concerned. The object of the measure has been to establish "a greater equality in the conditions under which road and rail transport operate." *

The London scheme is in striking contrast with the above measure. It represents a complete merger, embodied in the London Passenger Transport Board set up in July, 1933. The difficulties presented by the existence of 89 separate transport undertakings catering for 3,500,000,000 passengers annually and by the powerful vested interests that have grown in and round them might at first

*For a description and criticism of this measure, see *The Economists* April, 22, 1933.

sight have been regarded as insuperable, but the miracle has been achieved because the necessity of co-ordinating the vast traffic of London and of avoiding wasteful competition was strongly felt. The vastness of the undertaking will be easily gauged by the fact that the total capital that is transferred to the control of the Board is immediately estimated at £120,00,000, which will have to be augmented for the improvement of the services and keeping them in line with modern developments.

It is true that the experience of the London merger has not been very satisfactory from the financial point of view. Without however, entering into the details of financial implications of the scheme it may be pointed out that combination and co-ordination have been the twin principles of rationalization of all forms of industry including transport. As an instance reference may be made to the necessity felt for the grouping of railways even under the English system after the War.* It is well-known that though railway rates are subject to the condition that no "unreasonable" rates should be charged or "undue" preference given, the rates have to be fixed with reference to the question of competition not only as between railways but also as between railways, roads and waterways. Competition between rival business interests also leads to discriminatory rates. A proper grouping of railways and an effective control by the State over the railway systems will to a great extent minimize the possibilities of uneconomic competition.

It might be helpful if the case of the railways and the case of the road transport are presented in the words of those who are competent to speak on the subject. The case for the railways was put very clearly by the Hon'ble Member of Railways while presenting the Railway Budget for 1936-37 to the Indian Legislative Assembly. He pointed out that the railways were losing a substantial sum through the following reasons: competition of motor transport, Rs. 3 crores; improvement of labour conditions in terms of the Washington and Geneva Conventions, half a crore of rupees:

*"The War required that military considerations should be given the first preference in matters of transport and in England the Government immediately took control of these railways.....After the War when the English Railways were returned to the Companies it was found that the working expenses had substantially increased and the rates of charges appeared to be too high for the trade and traffic to bear. To meet the new situation, the British Railways were consolidated into groups of four and standard revenue were fixed." —Mr. H. D. Ghosh in the "*Financial Times*", January, 1936.

reduction in railway rates, Rs. 5 crores ; improvement in the pay of the lower paid staff, half a crore of rupees. Efforts have no doubt been made to reduce expenditure, and an increasing traffic has been anticipated as a set-off against the lowering of rates. At the same time he reminded that over Rs. 750 crores of the tax-payers' money had been invested in railways in India and in the last resort it is the Indian tax-payer who must pay the interest charges amounting to over Rs. 31 crores on this capital. Further, under the terms of Sir Otto Niemeyer's award, the possibility of the Provinces getting a share of the income tax proceeds depends upon the railway revenues attaining a certain size. If central revenues are faced with the prospect of having to finance an unremunerative system of railways, their capacity to contribute towards the resources of the provinces will be *pro tanto* reduced. The same problem was stated in different words by Sir Guthrie Russell, Chief Commissioner of Railways, in presenting the Railway Budget for 1937-38. He explained the position in the following words :—

"I wish to emphasize that we fully realise that there are conditions in which motor transport may create its own traffic and that the resulting increase in trade may benefit railways. We also realise that for some purposes motor lorries may be more efficient than railways and the substitution of road for rail transport may be to the public advantage. It must not, however, be forgotten that in such circumstances in respect of goods traffic this is generally for the benefit of the minority at the expense of the majority. But we hold very strongly that mere cheapness in the transport of a particular class of goods is not the sole criterion by which this efficiency should be judged. If motor lorries are allowed to carry the highest rated goods, or to skim the cream of the traffic, the result must be a raising of other rates. Are those who complain now of the high price of the transport of coal prepared to see these rates further raised in the interests of the lorry-owner? Or are those who are constantly demanding that railway rates should be fixed in accordance with some plan of economic development prepared in their enthusiasm for the doctrine of *laissez faire* to see the whole present system reduced to chaos, with consequent damage to the existing economic organisation? I agree that there is great need for development of communications in this country and that in this development the motor must play a great part. But nothing is gained by adopting the attitude of the ostrich and ignoring the essentials of the problem.

"Until now rail-road competition has been mostly confined to passenger traffic but there are signs that lorries are gaining a greater share of the goods traffic. And we must remember the possibilities of the Diesel Engine. I am amazed sometimes at the complacency with which the problem is regarded. I have even heard it said that, if the road succeed in taking traffic

from the railways, the tax-payer need not worry as what he loses on the swings he more than gains on the roundabouts.

"There is an idea abroad in some quarters that the loss to railway revenues would be less than the gain to Government from the advent of the motor vehicle. No useful purpose is likely to be served by any detailed examination of the economics underlying suggestions of this kind. They may serve as debating points in the controversy, but they only tend to obscure the seriousness of the menace to the investment of about Rs. 800 crores of the tax-payers' money in railways. This investment is irrevocable and it is in the interest of the tax-payer that he should have a reasonable return on it. He can get this return as he was getting it before 1929, if the existing railway rates structure, delicately balanced as it is to assist in the free movement of low priced commodities at low freight rates, is not thrown overboard to meet the conditions that are being created by unrestricted and unregulated road-motor competition. I repeat that we agree that motors have come to stay and that we do not wish to drive them off the roads. But we claim that the whole question of communications in this country requires dispassionate examination. That is why the co-ordination of means of communication forms an important item in the terms of reference to the Wedgwood Committee."

The Wedgwood Committee, however, found that in the existing conditions co-ordination is an "unattainable ideal". The first necessity, according to them, is an adequate system of regulation of road traffic. "It is useless to try," they observed, "to bring about effective co-ordination until road or rail transport are both operated as public services and under regulations appropriate to a public service." They pointed out that under the present system any attempt at co-ordination was bound to add to the defects. "The policy hitherto followed by the provincial governments," the Committee pointed out, "encourages an unorganized and inefficient type of road transport whose competition will cripple the railways without providing a trustworthy service on the road; whilst, on the other hand, the control exercised by the Central Government can only be made effective by delaying or restricting the provision of an adequate road system, which is a public need of the first order, quite irrespective of the railways." They commented on the present state of affairs by stating that a continuance of the present policy "seems certain to give India the worst of both worlds—unprosperous railways and inadequate roads."

We now return to the other side of the dispute, namely, the case of motor transport. This was presented by Mr. H. S. Sodhi, Secretary of the Bengal Bus Syndicate, before the Motor Vehicles

Insurance Committee appointed by the Government of India. After pointing out that Messrs. Mitchell and Kirkness had stated in their report that motor buses yielded Rs. 262 lakhs in the year 1929-30 by way of taxes, and confining himself principally to the buses operating in Calcutta, Mr. Sodhi observed as follows :—

“If every kind of direct or indirect taxation that the Bus owner has got to pay to the Corporation, Road Committees, Motor Vehicles Department, Motor Dealers, Petrol Dealers, Income Tax offices, Poor Box Funds, Magistrates by way of fines, and petty official underlings as hush money is taken into consideration I should say very little, if any at all, is left for his personal use. This is known to you that customs duties on all kinds of motor goods, parts, tyres etc., range from 25 per cent to 35 per cent but the excise duty on petrol is appalling. It is not commonly known that the import cost of petrol f. o. r. Cal. is near about -/3/- a gallon whereas the excise duty on petrol is -/10/- a gallon. The significance of this fact will be realised when I say that the Bengal Bus Syndicate Buses only consume about 4000 gallons a day of petrol and therefore we pay nearly Rs. 25000/- a day or Rs. 75,000/- a month or Rs. 9 lakhs a year as taxation on petrol only. Similarly another few lakhs are paid every year by way of duties on chassis, parts, heavy oils, etc., in addition to the usual police and road taxes.”

The two sides of the dispute thus presented lead to but one conclusion, namely, that the problem of transport must be looked at as a whole ; in other words, instead of treating the problem of railway transport or road transport separately, we should view the problems in their complete perspective. As Mr. Pelley, President of the American Railroads Association observed in a letter to the public (December 9, 1935), “regardless of the degree of efficiency which may be achieved by rail roads, they will not be able by these to solve the so-called ‘rail-road problem’. In truth, it is not a rail-road problem. It is a transportation problem, to be solved finally not only by the efforts of the railroads themselves, but also by the correction of the unwise public transportation policies which are at the root of the trouble.”*

*I may here take the opportunity of presenting Mr. Pelley's views with those of another distinguished American, Mr. Henry Ford. Mr. Pelley in the letter above referred to thus attempts to establish the superiority of the railroad : “That railroads have been able to set in business at all under such unequal conditions of competition, and to do the major transportation work of America, is due to the inherent superiority of the rail method of hauling, which alone can combine in one co-ordinated continent-wide operation the flexibility of the single car with the economy of mass production in long trains.” Compare with this Mr. Henry Ford's observation : “The railroads built the country by making the exchange of products easy and convenient but it remained for the automobile to

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§ 5

WATERWAYS.

Into this composite picture of the transportation problem viewed as a whole, the question of the waterways, particularly in a country like India, must have a definite place. We can distinguish the problem of India's waterways as (1) the problem of ocean transport and (2) the problem of inland waterways transport. So far as the question of ocean transport is concerned, there is a feeling that the railways have to face not only the competition of the road but also the competition of the sea. A lot of traffic is stated to have been diverted from the railways to the sea particularly on the Karachi side on account of the higher freights charged over the railways. Facts bearing on the question are very difficult to obtain but so far as they are available they reveal without doubt the existence of a keen competition between railways and coastal traffic. It is, however, doubtful if the charge that sea traffic is cutting into railway traffic is substantiated by facts. In this connection, a correspondent writing to the *Indian Finance* a few years ago* supplied certain facts which go to show that it is the steamers who have lost traffic to the railway on account of uneconomic competition offered by the latter. The results of this competition are shown by the following instances of the diversion of traffic.

TABLES

*Exports by Railway and by Sea from Coconada to Malabar ports
(rice and grains)*

Year	By Railway	By Sea
1929	48,386 bags	4,31,227 bags
1930	37,687 "	3,43,154 "
1931	55,864 "	1,246 "

*Carriage of Wheat from Karachi to Madras Coast and Calcutta
(In tons)*

Year	By Railway	By Sea
1931	39,038	76,062
1932	88,937	98,721
1933	1,20,035	37,409

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break down all the barriers because railroads can only follow its tracts while an automobile can go anywhere." Henry Ford : *To-day and To-morrow*, 1926, p. 164.

*See *Indian Finance*, June 2, 9, 16 and 30, 1934.

*Carriage of grains, pulses, flour, etc., from Karachi to Madras
(in bags)*

Year	By Rail	By Sea
1931	55,829	4,89,314 (a)
1932	25,027	4,59,093 (a)
1933	98,669	1,94,063 (a)

(a) These figures relate to the years 1931-32, 1932-33 and 1933-34 respectively.

The above are only a few examples showing the extent of rail-sea competition. The instances given by no means exhaust the list. In almost all cases railways have been able to secure a substantial diversion of traffic which they wanted to capture from sea transport. This competition is offered openly without any disguise. In 1933 the Railway Board decided to utilize the all-rail route for carriage of railway coal instead of despatching through the Calcutta port and nearly 1,00,000 tons of coal were stated to have been diverted during the financial year in spite of the protest of the Calcutta port authorities. The following interpellation in the Indian Legislative Assembly in March, 1934 will also indicate the deliberate manner in which railways have been trying to capture traffic from the sea :—

Mr. M. Maswood Ahmad : Will Government please state :

- (i) the distance from Lyallpur to Calcutta,
- (ii) the freight on wheat per maund from Lyallpur to Calcutta,
- (iii) the freight on rice per maund from Calcutta to Lyallpur ?

Mr. P. R. Rau :

- (i) 1,266 miles.
- (ii) Rs. 1-0-4.
- (iii) Rs. 1-3-4.

Mr. Lalchand Navalrai : May I know, Sir, why there is so much difference in the rate of freight ?

Mr. P. R. Rau : The rate of wheat from Lyallpur to Calcutta was previously the same as the rate of rice from Calcutta to Lyallpur, but it was reduced by Re. 0-3-0 from 1st May, 1933, to encourage the movement of by the rail-cum-sea route *via* Karachi.

The question is, who bears the cost of this heavy reduction in railway freights ? The railways have large reserves and are backed up by the resources of the State. Naturally they are in a position to offer uneconomic rates while the steamship companies have to depend purely on the commercial aspect of the rates. It has been rightly pointed out that the competition offered by railways which are mostly

State-owned is uneconomic and unfair if, as a result of such competition, competing transport interests are adversely affected and that unless the Government are prepared to nationalise the entire means of transport, they should see that the railways do not charge rates so unreasonably low or unfairly competitive with coastal or inland shipping as to be ultimately detrimental to the public interest. It may, however, be mentioned that from the point of view of national interest, ports and sea traffic are not less important than railways. In this connection, the conclusions arrived at by the Port Facilities Committee appointed by several important commercial and industrial organizations in England a few years ago may be referred to. The Committee held that special considerations should be given to the needs of the coasting trade of the country and pointed out that it is one of the three main forms of internal transport and an important element in defence. In fact, the Committee observed that "ports and port equipment have a vast claim in the national interest on Government's consideration." At present traffic at the ports is subjected several charges and dues. It is interesting to mention, as the correspondent of the *Indian Finance* pointed out, that one ton of gunnies would have to pay nearly Rs. 2-2-6 at Calcutta as river due, *ad valorem* toll etc., while it would have to pay nearly Rs. 3 for unloading at Bombay. If rail-sea competition is to be rationalized, these charges must be rationalized,

As regards the question of the waterways the Acworth Committee was furnished with instances of the unfair competition by railways with them. The Committee had felt that these were genuine grievances and they had recommended an enquiry into the matter by the Department of Communications of the Government of India and suggested that the Department should have charge not only of railways but of canals and ports as well. Nothing, however, has been done to implement this suggestion. The vested interests of the railways have long precluded a proper solution of the question of India's waterways. In fact, more than 20 years ago the Industrial Commission (1916-18) had first drawn attention to the desirability of improving the waterways of the country and pointed out that "the vested interests of the railways have prevented waterways in India from receiving the attention that has been given to them in other large countries with satisfactory results." The policy of the railways seems to have been to monopolize the transport at present controlled by

them to the exclusion of all other alternative means of transport. The closing down of the small ports has been perhaps a direct consequence of this policy. The case of the Buckingham Canal was a significant pointer to the selfish policy of the Indian railways.

All these facts point to the conclusion that there should either be a national authority for co-ordinating transport and regulating competition between different forms of transport or all the different forms of transport should be nationalized. Past experience has shown that there cannot be a third alternative. Since, however, the question of nationalization raises questions of principle and is, in any case, attended with serious financial complexities, the best course left open to the planning authority must be to assume powers for the control, co-ordination and regulation of the different forms of transport.

§ 6

RAILWAY RATES.

The powers of the planning authority must extend to the regulation in the national interest of rates and fares. At present, so far as the railways are concerned, the only concessions that are allowed are in respect of the movement of Government stores and for military considerations. It is only within extremely narrow limits that the larger question of industrial development or agricultural improvement have weighed with the railway authorities in the determination of rates of freight. The main determinants have been the considerations of commercial productivity. The only limitations that have been laid on the profit-making propensities of railways are that they have been prevented from charging "unreasonable rates" or from making "undue preference". The practice in India is that for purposes of determining the charges to be paid, commodities have been grouped into different classes. The class in which a commodity is placed determines the maximum rate which may be charged for that commodity, and the minimum rate which cannot be infringed without the approval of the Railway Board. Within these maxima and minima, railways have full powers to vary the charges. These powers are freely exercised and about 80 per cent of the revenue from goods traffic is obtained from rates below the authorized maxima. As a matter of fact, the charges payable on the Indian railways compare very favourably with the charges payable on most of the foreign

railways. The following information gathered from the statistics published by the International Union of Railways for 1935 will show the average charge for passengers and for goods traffic respectively in all the more important countries of the world. The figures are given, on a comparable gold basis, in centimes per passenger kilometre.*

TABLE

		Passenger Kilometre.	Average Receipt per Ton Kilometre.
Italy	...	4'14	4'56
Germany	...	2'96	4'32
Great Britain	...	2'39	4'83
France	...	2'41	4'49
South Africa	...	...	3'26
Canada	...	3'98	1'84
U. S. A.	...	3'69	1'84
Argentine Republic	...	2'02	2'57
India	...	1'25	2'50
Japan	...	1'00	1'39

The main complaint against the Indian railways is not, however, that the charges are high but that undue preferences are given to particular forms of traffic to the detriment of the others, that discrimination is practised against different classes of customers and that the rates offered are in some cases uneconomic, framed mostly with the intention of crushing competition from rival carriers. The question of undue preference is at present subject to investigation by the Railway Rates Advisory Committee. The Committee, however, have failed to command public confidence, and the procedure followed when a particular dispute is referred to it has been widely criticised. A demand has been made for its substitution by a body with mandatory powers like the British Railway Rates Tribunal or the American Inter-State Commerce Commission. The Wedgwood Committee have, however, opposed the abolition of the Railway Rates Advisory Committee and its substitution by a body with mandatory powers on the ground of the legal character necessarily assumed by the hearing before such a body and the cost involved to applicants.† This does not appear to

*Quoted in the report of the *Indian Railway Enquiry (Wedgwood) Committee*, 1937, p.11.

†If the Wedgwood Committee thought that the present Railway Rates Advisory Committee are a model of economy, they were very much mistaken.

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be a cogent ground for rejecting the suggestion for the establishment of an authoritative body for deciding all disputes relating to railway rates, particularly as considerable sums of money, may be, and are in fact, often dependent on the findings of the body. The Wedgwood Committee were in favour of retaining the Committee in its present form but expediting the procedure and making it obligatory on the Government to refer every dispute to the Advisory Committee unless the dispute was in the opinion of the Government, based on frivolous or vexatious grounds. This would seem to be an unsatisfactory solution, particularly as one of the points involved in the suggestion to set up an authoritative tribunal was to make it independent of any control, direct or indirect, by the Government. It cannot be ignored that the Government of India have a direct or indirect interest in the rates charged by the railways and so it is essential that they should not be given any decisive voice in either the presentation or the settlement of the disputes.

There are a few specific points to be considered with regard to the rates charged by the Indian Railways. One of these is what is called the "discontinuous" Mileage System of charging rates. The present practice in the case of traffic carried over more than one railway system at schedule rates is to calculate the rate on the local distance over each system instead of on the through-distance over all the system. As trade becomes more and more all-India in character, this practice tends increasingly to operate against the evolution of a rational system of the determination of rates. In fact, it raises the whole question of simplifying and rationalizing the schedule rates. Here again, the Wedgwood Committee failed to give a clear guidance as to what the railways ought to do. They suggested that the difficulties might be met by the quotation of station to station rates nearer to the figure of the through-rate as

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The following facts will bear out the proposition that the Committee have not erred on the side of thrift. Since its establishment in 1926, a sum of Rs. 13,47,000 has been spent on the Committee. During this time the Committee have disposed of 48 cases out of 50 sent for enquiry so that the average expenditure works out at Rs. 26,950 per case. In 1931-32, the Committee involved the Railway Board in an expenditure of Rs. 1,45,000 and disposed of only two cases. During the last 8 years only 18 complaints were sent to the Committee. It may be recalled that in 1931 the Retrenchment Committee had recommended the abolition of the Advisory Committee.

calculated on the "continuous" principle. The answer to this would be that the demand for the introduction of the continuous mileage system can hardly be met by the quotation of station to station rates the purpose of which is different. The fundamental remedy seems to be to follow up the nationalisation of the ownership of railways by the nationalisation of its management ; this in turn being followed up by a convenient regrouping of the railways.

A question of considerable interest to Indian industries relates to the charge that has often been laid against the railways to the effect that their rates offer a preferential treatment of import and export traffic. The Wedgwood Committee have rightly pointed out that in a country like England such complaints would immediately have been sent up to the Railway Rates Tribunal for a final verdict one way or the other. In India, on account of the want of popularity of the Railway Rates Advisory Committee, the point of the complaint has never been fully authoritatively and independently determined. The grievance however is there and it is essential that the whole question should be settled once and for all by an independent and competent authority.

§ 7

ORGANIZATION.

The whole purpose of the planning of transport should be two-fold. In the first place, the present anarchical conditions prevailing over different forms of transport should have to be rectified. The machinery of co-ordination and regulation will have to be set up for the purpose. This machinery must include all the different forms of transport that may be competitive in character, or may be regarded as complementary to each other. The river, the railway and the road—each of these must be brought into relation with each other if wasteful competition is to be avoided and a national system of transport developed. The second point that may be emphasized is that the rationalisation of transport should be related to the requirements of economic planning. In other words, the whole question of transport rationalisation should be looked at from the point of view of the national interest so that it may fit in with the general perspective revealed by the efforts of the different planning authorities. This involves, even if it be for a temporary period, the

nationalisation of transport and the national regulation of rates and freights. The precedent has already been set by Great Britain in the Government control of her railways during the last War. In America too, the Government assumed a substantial measure of control over her transport systems during the War. After the War was over, the English railways were returned to the companies, and the control assumed was to a great extent relaxed in both the countries. In India the same procedure may be followed in relation to national planning. If War justified the temporary nationalisation of the railways and the other transport systems, the requirements of national planning offer to India a more substantial justification. In any case, the present problem is to set up a central machinery of regulation, control and co-ordination, the extent of the control being determined by the purposes of economic planning.

The organization to be set up must include the following :

- (i) a Central Railway Authority,
- (ii) a Central Road Authority, and
- (iii) a Central River Transport Authority,

each of these authorities being placed in charge of each of the three different forms of transport. These should be the three wings of the National Board of Transport. For the purpose of the regulation of rates and freights, there should be a Transport & Tariff Commission which should not only have powers to recommend appropriate rates and freights in specific cases but should also act in a quasi-judicial capacity for the settlement of disputes. It is needless to add that this Commission should act in close collaboration with the Board of Transport on the one hand, and the Government Department of Communications on the other. Further, it should be, as suggested in Chapter XVIII, a connecting link between the National Board of Industries and the Board of Transport for its function would affect or be concerned with both. The procedure would be that in all cases of hardship or where a definite rates policy is considered to be desirable in the interest of any particular industry, the National Board of Industries will move the Board of Transport and the Board of Transport would pass on the proposals to the Tariff Commission with such observations as the Board might deem fit to make.

One or two difficulties with regard to the institution of a Board

of Transport many be briefly referred to. Part VIII of the Government of India Act of 1935 contemplates the establishment of the Federal Railway Authority vested with the power to exercise the Executive Authority of the Federation in respect of the regulation and the construction, maintenance and operation of railways in India. This Executive Authority extends to the co-ordination in connection with the any Federal Railways of such undertakings as, in the opinion of the Federal Railway Authority, if expedient, should be carried on in connection therewith and to the making and carrying into effect all arrangements with other persons for the carrying on by those persons of such undertakings. There is, however, a limiting provision which lays down that the power of the Federal Railway Authority shall be subject to any relevant provision of any federal, provincial or existing Indian law, but that the establishment of the Authority should not be construed as limiting the provisions of Part VI of the Government of India Act which regulates the relations of the Federation with the Provinces and the States. Again, section 183 of the Act lays down that the Federal Railway Authority in discharging their functions under this Act "shall act on business principles, due regard being had by them to the interests of agriculture, industry, commerce and the general public" and that the Authority "shall be guided by such instructions on the questions of policy as may be given to them by the Federal Government." It is apparent, therefore, that the establishment of the Federal Railway Authority will not necessarily interfere with the execution of a national economic plan so far as it relates to the control or regulation of transport. It may, however, be suggested that since the Government of India Act already contemplates the establishment of the Federal Railway Authority armed with sufficient executive powers, the Board of Transport should confine itself only to the formulation of policy in terms of section 183 (2) of the Government of India Act subject to the final approval of the Authority. The Board will, however, represent not only railways but also the other forms of transport. Therefore, so far as the question of nationalization is concerned, while the executive powers in relation to the railways should continue to be exercised by the Federal Railway Authority, the Board of Transport will have to set up appropriate authorities for exercising the corresponding powers in relation to the other forms of transport.

The second point of difficulty is with regard to the possible effects of transport policy on the finances of the railways. The Wedgwood Committee have rightly warned against a thoughtless interference with the rates and fares. They point out that any departure from sound finance and sound business principles will entail heavy losses on the general revenues and heavy increase in taxation if the railways are involved in deficit. The railway debt amounts to two-thirds of the total Government debt. A comparatively small deficiency in the interest due on the capital sum of nearly 800 crores of rupees can only be met by a very substantial addition to taxation. It can be stated in reply that the history of the Indian railways has abundantly shown that the Indian railways are over-capitalized and the first task of a rational railway policy would be to write down this capital. In the past, deficits have, in fact, been incurred and the general revenues have suffered, without any corresponding national benefits. Even now railways are not a paying proposition. Therefore, while, on the one hand with a more intensive and economical use of the railway plant and rolling stock it may be possible to achieve a gradual reduction of the capital, there should, on the other hand, be no objection if the railways are asked to budget for a manageable deficit for the deliberate purpose of securing some national interest. The deficit would eventually be compensated by an increase of prosperity in the industrial sphere.

A few words are necessary on the question of road development. It has already been shown that India is rather poorly served by her roads. The existing mileage is insufficient but even then most of the mileage is taken up by unmetalled roads which are passable only during certain months of the year. It is essential that the Government of India should adopt a comprehensive policy of road development. The Road Development Fund as it operates to-day is inadequate to meet the full requirements of a comprehensive policy of road development. The Kirkness-Mitchell Report estimates the cost of the available road programme to be Rs. 18.43 crores which, however, "in no way represents what would be required for an all-round plan of development of roads in all the provinces." The present income of the Road Fund is thus manifestly inadequate. Assuming that a sum of Rs. 40 crores would meet the needs, as at present estimated, the next question would be the

method and means of its repayment. It would be a mistake to assume that every road should be directly remunerative or to expect that every road built would repay its cost. If the Road Fund is set aside for the maintenance and improvement of the roads that have been built, we shall have to find the additional sum necessary to meet the interest charges on the loan and repayment of the principal. At the risk of being regarded a little unorthodox, I would point to the bullock cart as a prolific potential source of revenue. It is estimated by Col. Smith that metalled roads would mean a saving to the cultivator of two-annas a mile on every trip his cart makes. There are about six million bullock carts in India of which four million use roads. There should not be any objection if these carts were taxed since they work by far the greatest havoc on our roads, provided that the tax be paid out of the savings to the cultivator on account of the extension of good metalled roads. If every cart were taxed at Rs. 5 a year, we should collect a sum of Rs. 2 crores a year from the carts alone. In addition to this we would have the sum which is annually spent by the local authorities for the improvement and maintenance of the roads. These together might form a substantial sinking fund for the repayment of the principal as well as the payment of the interest, and still leave something over for constructing minor roads and bridges within the areas of the local authorities.

CHAPTER XXVI

BANKING, FINANCE AND CREDIT

§ 1

THE PROBLEM.

The reform of the credit organization of this country is a question that requires urgent attention and yet the task is so gigantic and complicated as almost to inhibit the will to do it. The labours of the Central Banking Enquiry Committee and of the Provincial Committees have yielded a wealth of valuable information on the subject and anyone who wishes to take a measure of the banking problem would do well to refer to these reports. Unfortunately, reports like these, which deal with current conditions, soon become obsolete, and there is no regular supply of complete banking statistics in our country which could be available for reference at a moment's notice.

The first task of any reform in the economic structure of the country would be to have a clear idea of that structure as it is. In order to have that clear idea so far as the banking institutions of the country are concerned, it is necessary first of all to institute a suitable machinery for the collection of statistics and to build up a school of bankers able to interpret the same and apply the knowledge to the task of banking reform. Secondly, it is necessary that the theoretical training now imparted in the Universities in the theory of banking should be strengthened by the provision of adequate opportunities for training in the practice of banking either as part of the ordinary University degree course or as a special post-graduate course. The establishment of an Institute of Bankers would go far towards the rectification of the first defect. Measures ancillary to this would be, as has been suggested by some, the compilation of a

bankers' register, the bringing about of uniformity of banking practice and instruments and the calling of an annual Bankers' Conference for the exchange of views and experiences whose resolutions should form the basis of banking legislation in the country. The necessity of reorganising the University course in banking is also self-evident. In an era of rapid banking development, actual as well as expected, the importance of adequate facilities for banking training cannot be exaggerated. The establishment of the Reserve Bank of India, the growth of branch banking, the extension of co-operative credit and other specialized types of banking would create enormous opportunities for the employment of youngmen with the requisite qualifications, a fact which, in these days of acute unemployment among middle class youths, should be specially pondered over by those are in charge of the educational system of the country. The Institute of Bankers will itself be a principal factor in the organization and promotion of the right kind of banking education and training in the country, and there is no reason why with its help and active assistance, the University course in banking should not be improved and strengthened.

It is not possible in a chapter like this to do justice to all the problems of Indian banking. My object here is to dwell on the essential lines of reform which will result in a serious effort to reduce the present anarchy to a system, the entire picture as I conceive it being one of a well-disciplined unit rather than a disorganized, nebulous mass with no shape or form. For this purpose, certain elementary principles must have to be made clear. In the first place, by "a well-disciplined unit" I do not mean that banking should be reduced to a single category of functions. A bank may lend money as well as capital, and in a country which in the years to come must anticipate a quick tempo of development, we must have banks that would finance the capital requirements of agriculture and industries in addition to those that confine themselves purely to commercial functions. A commercial bank deals in short term requirements, but here again it may be proper to classify these banks into urban and rural. Lastly, there are the indigenous bankers and banking houses and moneylenders. In the strict language of banking, it would perhaps, be wrong to speak of the moneylenders as bankers, but they do come in the picture because by far the most considerable part of loanable capital comes from their resources, and in the rural areas

they compete keenly with the co-operative banks. This variegated picture of Indian banking must have to be kept in mind before the task of co-ordinating the banking institutions of the country is undertaken. In fact, the very first question that strikes one is whether such co-ordination is possible.

The second point that I want to emphasise follows from the first. The establishment of a Central Bank is often regarded as a panacea for all the banking ills from which a country may be suffering. This is not necessarily the case. In the first place, the Central Bank itself is not a definite type. Secondly, its successful working is determined by certain pre-existing conditions, the most important of which is the existence of a properly organized bill market. Then there is the difficulty of including the agricultural system within the ambit of high finance. Lastly, there are the difficulties which are special and peculiar to India,

The most distinctive of these difficulties is presented by the problem of organizing and co-ordinating rural credit including the problem of agricultural indebtedness. It is well known that co-operative credit is not only an incomplete system of rural finance but that even within the limits of its own legitimate functions, it has as yet touched only a fringe of the huge problem of rural indebtedness. The problems of debt conciliation and composition will have to be tackled before rural credit can be rid of the heavy incubus of huge unproductive debts sitting tight on it.

§ 2

RURAL FINANCE.

The existing credit agencies outside of the system of high finance are indigenous bankers, moneylenders, co-operative societies and loan offices. The indigenous bankers are confined mostly to towns. In Bengal, the bulk of their business is done in Calcutta with Chittagong and Dacca coming next. Since the loan offices play very little part in dispensing agricultural credit, the bulk of it we may assume, is supplied by the mahajans and the co-operative societies. It has been estimated by the Bengal Banking Enquiry Committee that the total short and intermediate term requirements of the Bengal agriculturists come up to Rs. 96 crores of which only a small fraction is supplied by the co-operative societies. This is also more or less true of other provinces. It is thus evident that so

far as agricultural credit is concerned, the greatest difficulty to be confronted in any effort at co-ordination is presented by the existence of the rural moneylenders who do business with their own funds and thus are enabled to avoid any influence that may otherwise be brought to bear upon them by the controlling or supervisory functions of central institutions or agencies.

Since rural credit is by far the most important form of credit in India to-day, not only from the point of view of its total volume and requirements but also of the fact that over 70 per cent of the people of India are interested in it and in nothing else, it would be desirable to investigate the problems of rural credit before we advert to a discussion of the system of high finance. Not the least of the problems is, as indicated, above, the question of bringing the system of agricultural finance into touch with the centres of high finance, and particularly, within the ambit of the Central Bank.

The co-ordination of the existing credit agencies in the rural areas is an exceedingly difficult problem. In fact, the Bengal Banking Enquiry Committee in paragraph 126 of their report record their inability to make any suggestion for co-ordinating the different credit agencies which finance agriculture in the rural areas. Yet some co-ordination must be achieved or else by far the largest part of the financial machinery of the country would remain, as it is now, completely out of gear. The close connection between agriculture and industries need not be stressed in a country where the chief source of wealth is still agriculture. A Central Bank may, indeed, work independently of the rural financial agencies but its utility in that case would be confined only to the microscopic minority of the people. If we admit our failure in this respect, banking rationalisation would be an idle talk and the economic structure of the country would be built upon very insecure foundations if the majority of the people continue to be the victims of the uncontrolled and oppressive credit system that now obtains in the rural areas.

The evil effects of the way in which moneylenders carry on their business arise from the fact that the rates of interest they charge are often unconscionable. Even if all the money borrowed were invested in productive expenditure, agriculture would still remain unprofitable because there is no business which would normally be capable of bearing the high cost of accommodation which the moneylenders

charge and still yield profit. The position of the borrower becomes doubly difficult when the amount borrowed is spent on unproductive expenditure. This is exactly the situation in India at present. To approach the problem of agricultural debt from the side of the debtors would be hardly of any use since it entails a radical change in the agriculturist's outlook, environment and temperament together with a thorough overhauling of the social order of which he is the product. The agriculturist must borrow, and it would be important at this stage to distinguish sharply between productive and unproductive debt. The co-operative movement, for instance, has a real danger to face in the fact that the village moneylender is still the friend of the agriculturist in the matter of making unproductive debts; and as every one knows, most of the debts incurred by agriculturists are for unproductive purposes. Unproductive debts, however, represent a phase of social pathology, and call for a revision of the social outlook and usage rather than a declaration outright that no bank should advance money for unproductive purposes. We should rather trust to the progress of education and enlightenment to bring home to the rayiats the utter futility of spending money on useless festivities. In the meanwhile not precluding loans for unproductive purposes, we must make it impossible for those who advance money for such purposes to take advantage of the state of helplessness of the borrowers. A great step towards the improvement of the entire position would be taken if the capital assets of the borrower were made secure from any kind of seizure or alienation in satisfaction of any debts except, to a certain degree, loans for long periods advanced on the security of such assets for the specific purposes of debt-redemption or improving the land. Every debtor who borrows money should be expected to make the repayment of his debt out of his current income and if any creditor advances money without any regard for this rule, he must do so at his risk. The law of *damdupat* should be extended to all these transactions and any possible evasion of the law should be carefully guarded against. The maximum rate of interest should be specified. Money might be advanced for current purposes on the security of crops or warehouse receipts or similar other valuable consideration. The purposes must remain unspecified, because as long as there is want for credit and the want is lawful, such want must be satisfied, whether the want is for productive or for

unproductive expenditure. It would, however, be clearly against the interest of the community to allow any loans meant to be spent on unproductive purposes to be issued on the security of the property of the agriculturist.

If the general criterion is accepted that loans for short term requirement should be financed on capital account, then we find that in Bengal, the total amount of mortgage debt which is estimated at 44 crores is secured on property valued at about Rs. 700 crores. This does not point to a state of insolvency. The total indebtedness, however, amounts to Rs. 100 crores. Since the average Bengal peasant has no surplus of income over expenditure he cannot make any provision for meeting the interest charges on his debt, far less any for the principal of the debt which works out at about Rs. 31 per agriculturist. During the last four years of the depression, the indebtedness must have considerably increased ; and if all these debts are fastened upon the property of the average agriculturist, the position becomes desperately serious.

It is evident that a policy of inaction would make the position increasingly worse. The immediate problem may to a considerable extent be met by devising a suitable scheme of debt conciliation and by passing a Rural Insolvency Act. It has also been suggested that the Government should, instead of enforcing rural insolvency, assume a part of the total agricultural debts as a form of national liability. On a careful balancing of the pros and cons of the various methods suggested, a scheme of debt conciliation seems to be the most appropriate remedy for the present state of things.

In many provinces a debt settlement procedure has been evolved. The mechanism adopted is the Debt Settlement Board which proceeds generally on application by one of the parties to compose outstanding debts in order to reduce the amount of the debts to a figure that will be within the paying capacity of the borrower. The payment of the debt is usually spread over a number of years and the amount of the debt when once settled is taken out of the jurisdiction of the civil courts. The question of debt settlement is an inevitable necessity for attacking the problem of outstanding debts. The remedy is no doubt a drastic one and may appear to violate the law of contracts. The harshness of the procedure, however, is tempered by the thought that the contracts have in most cases been unconscionable.

As the law has been framed in several provinces the debts that are composed or settled are regarded as a transaction confined to the respective borrowers and lenders affected by the transaction. No *instrument* of debt or of credit is created and the evidences either of the credit or of the debt duly accepted by the parties concerned are not negotiable. If proper instruments could be made out and the evidence of the credit could be made into a marketable security, a good deal of liquidity could have been imparted to the system of agricultural credit in the country. This point will be considered in the following section.

§ 3

AGRICULTURAL FINANCE.

A scheme of debt conciliation would provide only the minimum line of action and within its limits would act as a palliative. The essential problem would still remain: How to prevent the re-accumulation of such debts in the future?

The problem is a baffling one. It opens up the entire question of agricultural credit. The bane of agricultural credit in India as in other countries has been the high rate of interest at which it is obtained. The passing of an arbitrary law bringing down the rate of interest will be a crude solution of the problem. The high rate of charge for agricultural loans is the result of the objective conditions affecting agriculture and its operations. Unless those conditions are improved and the system of agricultural credit organized on scientific lines, to lower the rate of interest without reference to these conditions would only mean restricting all the existing channels of agricultural finance.

The experience of other countries, particularly of the United States of America, furnishes us with examples of what can be done to organize agricultural credit on sound and scientific lines.

Broadly speaking, agricultural credit can be classified into long-term, intermediate-term and short-term. The problems raised by these three types of agricultural credit are different in each case. They may be discussed separately and the type of organization suited to each may also be discussed in the light of the experience gained in other countries. Long-term credit is necessary for the purchase of land, improvement of land, consolidation of holdings and the like. Intermediate credit is required for the purchase of implements

and livestock and in some case for financing the production of certain kinds of crops. Short-term credit is required mainly for financing the commercial operations relating to agriculture including the distributive side of agriculture. In a country like India, long-term credit is required mainly for the purpose of liquidating ancestral and accumulated debts while the question of land improvement is generally left to take care of itself. In a few big estates under the zemindary system, the landlords have contributed a great deal towards the improvement of their estates. In other cases, the State has assumed the function of the landlord and contributed generously towards the improvement of the systems of communications and transport and the construction of irrigation works. In some cases, co-operative societies have been started to fulfil the need of long-term finance. The co-operative system as a whole, however, has been usually concerned with the provision of short and intermediate term finance for agriculturists. The deposits that they command are generally for short-terms, and consequently it is unscientific for them to lock up their funds in long-term investments. Yet not a few societies have been driven by force of circumstances to invest a part of their funds in long-period loans and have subsequently found themselves in difficulties. The practice of lending money on the mortgage of agricultural lands is yet foreign to the banking system of the country and is generally left to the village moneylenders or loan offices. The baneful consequences of this practice have to some extent been stopped by legislation, for instance, by preventing the transfer of lands except to agricultural classes. Such laws, however, have been easy to evade with the result that the agricultural classes have been pauperised *en masse* in several parts of the country. In some cases, big landlords have been able to secure loans on the mortgage of their estates and properties at fairly high rates of interest, as for example, from the Loan Offices in Bengal. But the proceeds of such loans have been generally wasted in unproductive expenditure. In short, the whole system of agricultural finance in India requires overhauling, primarily for the benefit of the agricultural classes.

Long-term Credit :

For the supply of long-term credit, the American system may be recommended subject to certain modifications. As the system

is primarily based on mortgage-credit, it is essential first to improve the mortgage value of the agricultural holdings in India before the American system could be adopted. The average size of an agricultural holding is very small in this country, being often below the economic unit. Any organization of farm credit on an effective scale must presuppose the creation at least of economic holdings that can fetch a mortgage value. In other words, it must be preceded by legislation providing for the compulsory (if necessary) consolidation of holdings. The consolidation of holdings must follow an approved scheme and one of the heirs should have the right to purchase the other heirs through a system of land-bonds issued preferably by a special type of credit institution set up for the purpose. After lands have been suitably consolidated, long-term credit may be arranged on the mortgage of the consolidated holdings. What is required is that each of the Provincial Governments should pass an Act on the lines of the Federal Farm Loan Act in America. The Act should encourage the establishment of co-operative agricultural loan associations on the lines of those of the United States, and the Land Mortgage Banks to be established under the Act should be enabled to advance loans of a minimum amount to the agriculturists through these associations. Each association must subscribe to the capital of the bank to the extent, say, of 5 per cent of the loan demanded and assume a liability equal to the value of its share for losses sustained by the bank. The land banks should operate under Government control and the capital should be initially subscribed by the Government. The term of the repayment of the loans may extend from 5 to 30 years at the option of the borrowers and all loans should be on the amortization plan, prepayment privileges being allowed after 5 years. The funds may be obtained, if necessary, through the sale of tax-free debentures secured by farm mortgages, each bank being permitted to issue such bonds up to 20 times its unimpaired capital and reserve and being jointly liable for the bonds to be issued by all the banks. It is not necessary that these bonds should be obligations of the Government but they may be issued under the terms and conditions specified by the Government. Though the American Federal Farm Loan Act authorized the establishment of Joint Stock Banks, privately owned and operated under the Federal Farm Loan Boards, Indian conditions obviously preclude the establishment of such banks. The maximum rate of interest to be charged may be placed at 2 per cent above the bank rate.

The land banks contemplated under the section should be placed under the control of the Central Board of Agriculture which may operate through a Central Agricultural Loans Board with its provincial counterparts. The land banks would be subject to the Central Board in matters of general policy. The associations, on the other hand, would be the links between the agriculturists and the banks. These associations would recommend application for loans and fix the credit-worthiness of the different applicants. They should also undertake such investigations into specific questions as might be required by the banks in fulfilment of their functions. If necessary, the Regional Committee itself might sit as a co-operative loan association for the region concerned.

Intermediate-term Credit :

The United States of America has set up a special system for supplying intermediate credit under the Agricultural Credit Act of 1923. The object of the Intermediate Credit System is to provide production and marketing credit for periods longer than those ordinarily supplied by commercial banks. The system is intended to supplement and strengthen the commercial banks and not to supersede them. There are about a dozen Intermediate Credit Banks in the United States with districts corresponding to those of the Federal Land Banks. The capital of these banks is subscribed by the Federal Treasury and the funds with which to make advances are obtained from the capital stock and from the sale of collateral trust debentures which may be issued up to 10 times the unimpaired capital and surplus of each bank, the banks being jointly liable for all the debentures issued. The debentures are tax-free and do not find any difficulty in securing a ready market. Advances by the banks are made either direct to co-operative marketing associations or on the security of warehouse receipts or shipping documents covering staple agricultural products, or in the form of discounts. The Federal Intermediate Credit Banks may also discount for local banks, livestock loan companies and other credit agencies, agricultural paper maturing in from 6 months to 3 years. The Agricultural Credit Act also provides for Agricultural Credit Corporations in regions where established credit institutions do not provide the necessary facilities. These corporations which are allowed a maximum paid-up capital stock of \$ 10,000 may rediscount

agricultural paper with the Intermediate Credit Bank up to 10 times their capital and surplus. There is also provision for National Agricultural Credit Corporations with a minimum capital of \$ 250,000. There are privately operated competitors of the Federal Intermediate Credit Banks and operate under the supervision of the Comptroller of the Currency. These corporations, however, have not been a great success.

The system, it should be obvious, may be adapted to the case of India. At present the co-operative banks provide most of the intermediate-term credit. It is, however, desirable that as the three types of credit should be clearly demarcated from each other, a special type of institutions should be set up for supplying intermediate-term credit, the co-operative banks being left to provide short-term credit only. As in the case of the land banks, the capital of these intermediate credit banks should also be initially subscribed by the Government. They should also, like land mortgage banks, be subject to the general policy and supervision of the Central Board of Agriculture or the Central Agricultural Loans Board. Similarly, the relations of these banks with the agriculturists should be controlled through the agricultural loans associations or the regional committees, as the case may be.

Short-term Credit :

The existing co-operative credit societies should continue to function as the chief agency for the supply of short-term credit. Since these banks, under the scheme suggested in this section, would be confined only to the supply of short-term and long-term credit, they should be able to avoid most of the difficulties from which they have been suffering on account of the jumbling up of short-term and long-term credit. Realizations will also be timely and the turn-over of the loans quicker. The only thing necessary would be to supplement the finances of these societies. This should be done by bringing the entire co-operative system within the ambit of central banking. At present, the Reserve Bank of India Act of 1934 contains certain provisions for financial accommodation to the co-operative banks. The full implications of these provisions do not seem to have been adequately recognized. The Reserve Bank of India should be further authorized to issue emergency currency against approved co-operative paper at a time when there might be stringency in the money market. The Government should also consider the advisability

of making an annual grant of which the maximum amount should be fixed to the Provincial Co-operative Bank to supplement the funds of the Bank at a time of heavy demand. These short-term advances, whether by the Government or by the Reserve Bank of India, should be re-payable within not more than 12 months.

The co-operative Department at present favour a policy of caution and consolation rather than one of progress. While there is a good deal of reason behind this policy, it must be remembered that the total working capital of the societies barely meets 3 per cent of the total working capital requirements of the agriculturists. In Bengal while the annual requirements of agriculturists have been estimated at Rs. 96 crores, the working capital of all these societies is only Rs. 5 crores. The total working capital of all these societies in India is only Rs. 30 crores. If an expansion of the co-operative societies cannot at present be looked for, we must at least devise means to augment the resources of the societies. One of the most important pieces of reform called for in this connection is to establish contact between the rural areas and the city. The general isolation of the centres of rural finance from city banking and the money market must be removed. This represents the problem of banking co-ordination in an entirely different aspect which will be discussed in Section 5.

§ 4

FINANCING OF INDUSTRIES.

India is yet to develop an adequate system of industrial finance. The recently passed Indian Companies (Amendment) Act has placed stringent restrictions on the operation of the managing agency system with a view mostly to rectifying the grave evils which it had exposed. But no alternative system of the financing of Indian industries has yet been devised. The banking system of India has developed along the lines of English banking, that is, the system of banking is predominantly commercial in character. It is not proper for a commercial bank, depending as it does on short-term deposits, to finance industries except when temporary credits may be required by them either against hypothecation of property or, more readily, by the discounting of commercial bills. The financing of an industry is not, however, a single problem. Every industry requires capital for block expenditure as well as for current working expenses. When a factory is to be started it requires considerable outlay of capital

which is not expected to bring any immediate return. The factory must be equipped in the shape of buildings, works, plant and machinery. These represent the fixed capital of the industry. Working capital, on the other hand, is required for the purchase and working of raw materials into finished products, for financing outstandings in respect of goods supplied and for providing the necessary funds for meeting day to day requirements.* Working capital is also required for sustaining the industry during the first few months of its starting till the goods are manufactured and placed in the market, so that the total amount of working capital will depend partly upon the value of the output and the period of the productive process. Thus, on the assumption that the working capital needed, say in the steel industry is equal to about the cost of 6 months' productive output, the figure was estimated in the case of the Tata Iron & Steel Co., at Rs. 3½ crores in 1924. Similarly, in the case of a big cotton mill it is estimated that a sum of about Rs. 150 lakhs is needed annually by way of working capital while the fixed capital outlay may be less than this figure.† Having regard to Indian conditions, the amount of the working capital necessary for an industry may be roughly put at half of the fixed capital investment, which may be less if the industry concerned enjoys easy access to finance, as for instance, when it is in the hands of a strong managing agency house. An estimate may on this basis be attempted for ascertaining the total capital requirements of Indian industries, assuming a certain pace of development. In 1932-33 there were 7,544 joint stock companies registered in British India with a paid-up capital of Rs. 275 crores, the average paid up capital per company being a little less than Rs. 4 lakhs. It has already been noticed that the paid-up capital per company has become lower since 1923-24 when the figure was a little over Rs. 5 lakhs per company. Since it is a well-known fact that Indian industries are mostly under-financed and an average paid-up capital of Rs. 5 lakhs per company would not be an over-estimate. If the plan of development contemplates the doubling of the existing

* *Indian Central Banking Enquiry Committee, Report*, p. 266.

† The figure of Rs. 150 lakhs represents in fact, the working capital for a year of the Central India Spinning, Weaving and Manufacturing Co., Ltd., whose paid-up capital of Rs. 97 lakhs was almost wholly used up in fixed capital outlay. The mill was equipped with 100,000 spindles and 200 looms. See Lokanathan : *Industrial Organization in India*, (1935) pp. 157-58.

number of companies in 10 years, then allowing for a reduction of 10 per cent in the number to provide for amalgamations of uneconomic units, we are likely to have about 13,500 companies for British India at the end of the period. The total capital requirements for these companies would then be Rs. 675 crores, that is, additional capital of Rs. 400 crores must be found for the financing of these industries.

Can we reasonably expect this amount of Rs. 400 crores or nearabouts to come from the pockets of Indian investors? So far as the present conditions go, it seems that the necessary finance can perhaps be obtained from Indian investors if only they have the will to invest in Indian industries. The present rates of interest are extremely low and the fact that the Government loans and other similar floatations are over-subscribed within the allotted time even at extremely unattractive rates of interest shows that there is no dearth of loanable capital seeking investment in India. In an earlier chapter I have spoken of the necessity of floating a Rural Reconstruction Loan.* If the Indian investors are not willing to come forward in sufficient numbers to bear the burden of industrial development, the Government of India will have to pledge their credit for the purpose of raising the necessary finance to be made available to the industries at low rates of interest. Actually, however, it may not be necessary to raise the entire sum of Rs. 400 crores by pledging the Government's credit. It will be sufficient if the Government undertake to find the capital for the key industries and for other industries of a national importance. The actual procedure to be followed may be related to the experience gained in other countries that have a well-organized system of industrial finance. At present, as Dr. Lokanathan has pointed out, the organization for issuing securities and under-writing them is very loose. The Indian Central Banking Enquiry Committee referred to several cases in recent years when the promoters of even the most promising public utility concerns have failed to get their capital under-written on any terms. Institutions are also necessary for providing longterm credit to industrial concerns on the security of their fixed assets. This credit may be made available till such time as the industry in question is able to get the necessary finance by a public issue of its

*See Chapter XVI, § 5.

shares or debentures. It is evident that the existing commercial banks are not qualified to invest their funds in the financing of industries excepting for meeting short-term requirements on unimpeachable security.* Therefore, a special type of banks is necessary to provide the kind of finance that is wanted by industrialists. It is here that the experience of other countries that have specialized in the financing of industries should become a useful guide for India.

This leads us to the question of establishing industrial banks in India. In fact, this has been the unanimous demand of Indian mercantile and industrial interests as well as by a number of economists. The Indian Industrial Commission was also of the same opinion and had recommended the starting of industrial banks, leaving it to an expert committee to settle the details. "We consider," the Commission stated, "that the establishment of industrial banks working on approved lines is of sufficient national importance to justify the Government's assistance but we do not feel that we have sufficient material before us to enable us to formulate a definite scheme for industrial banks whether of provincial or imperial scope."† The main objection against the starting of industrial banks is the difficulty of finding a suitable personnel acquainted with business and industrial conditions and with practical knowledge and insight into the requirements of individual business or industries. It has also been pointed out that the value and utility of an industrial bank in a country like India is often exaggerated. At a time when the investing public is still shy to lock up their savings in industries, the essential problem is, first, to create the confidence of the investing public as to the soundness of the ventures to which they are invited to subscribe. The development of industrial banking, therefore, should wait upon, and not precede, the emergence of an entrepreneur class able to take the risk of starting new industries and to inspire confidence in the minds of the investors. These criticisms, to my mind, seem to have been a little overdone.

*It is, however, possible even within the narrow limits which the commercial banks set for themselves in going in for industrial investments to slightly extend the scope of the same so as to help an industry with a part at least of its block capital against plant and machinery. Some of the banks do invest their funds in such kinds of investment. There are financing houses which finance the hire purchase of motor cars, machinery etc., but the credit allowed seldom exceeds 2 years. Instalment buying has not, however, made much headway in India, and in any case, the existing facilities for such kinds of finance are very restricted.

†Report, p. 270.

Whatever might have been the strength of the objections urged against the starting of industrial banks on the grounds of personnel, say, about two decades ago, they have lost much of their force by the subsequent development of Indian industrialism. The growth of joint stock enterprise in recent years does not point to any lack of the forward spirit, but to the want of capital. In every sphere of industry, partly due to the regime of protection that has been in operation since 1923 and partly as an inevitable concomitant of economic progress, Indian industrialists and capitalists are coming more and more to the fore with substantial records of business activity. Under the scheme of national planning as contemplated in these pages and with the establishment of a competent National Board of Industries, the criticism as to the deficiency of personnel and leadership would be largely met. The question of the confidence of the investing public, however, remains. It is here that the planning authority will find its most important task, namely, that of securing the safety of the investment of funds by nervous investors in industries. It has already been proposed that so far as the question of the key industries and industries of national importance are concerned, the Government should undertake to find the necessary finance for such industries. Since, however, the Government could hardly be expected to have the necessary command over business and industrial acumen of the requisite standard to directly interfere in questions of industrial management, the finance which the Government might offer to such industries should be made available through a State-controlled Industrial Credit Corporation to be set up for the purpose. This Corporation should also take over the administration of the different State Aid to Industries Acts passed by several provinces in India for the financing of small industries. But before that is done it should be desirable to consolidate these Acts, so far as possible, on a uniform basis. The Corporation should have a separate department specially set up to deal with small industries and to administer the State Aid to Industries Acts. This department should act in close co-operation with the Rural Industries Commission, and more particularly, with the Rural Development Trust.*

No application for finance should be entertained by the Industrial Credit Corporation unless the industry has been approved by

*See chapter XVI, § 5.

the National Board of Industries. Apart from the grants that the Government should make to the Corporation for the financing of industries of a national character, the capital of the Credit Corporation should also, at least partly, be subscribed by the Government. Consequently, the Board of Management of the Corporation should have to be quasi-public in character, similar to the Central Board of Directors of the Reserve Bank of India. The Board of the Corporation should consist of, besides the Government nominees, persons with wide and varied industrial experience whose credit in the world of industry and finance is of the highest. These directors should be preferably nominated by the Central Board of Industries, but a certain proportion of representation on the Board should be allowed to the private shareholders of the Corporation, provided there is a sufficient number of them. The Corporation should make advances not only to industries of a national importance or key industries, but to all other industries as may, in the opinion of the Board, deserve assistance from the Corporation. It is of the essence of the system that the Corporation should be represented by means of a Board of Supervision attached to each of the industries to which the Corporation would have made advances. These Boards of Supervision should be something like the *Aufsichtsrat* in the German system. These Boards of Supervision should not directly interfere with the management of the industries. Their duty should rather be to watch over the conduct of the industry in all its branches, to keep themselves informed of the affairs of the industry, to examine the annual balance-sheet and all proposals that might involve any financial outlay or affect the terms and conditions of the advances made by the Corporation to the industry. It may, however, be desirable for the Corporation, at least during the initial period of development, to maintain a staff of technical advisers who will not only advise the Corporation on matters that might be referred to it from time to time but whose services should also be available to industries for technical advice and guidance. These would be necessary because most of the Indian industries operate on a modest scale and are generally too poor to entertain a staff of the requisite technical qualifications. This is particularly true of the small-scale industries.

As and when under the aegis of the Industrial Credit Corporation, the establishment of other industrial banks is encouraged the

Corporation might gradually convert itself into a banker of these banks—as the converging point of the entire system of industrial finance. It must, however, be regarded as of utmost importance that every industrial bank must conduct its affairs on sound, and, as far as possible, fool-proof lines. This is perhaps asking too much of an experimental venture which from its very nature will have to progress through pitfalls and failures. What is suggested is that the main principles of industrial finance should be safeguarded by means of a special law, much in the same way as the Indian Companies Act, recently passed, seeks to control the development of joint stock companies on sound and healthy lines.

This leads us to the question of undertaking a revision of banking legislation. A special Bank Act seems to be urgently necessary for controlling and regulating the banking system of the country and guiding its development along sound lines. The Bank Act should be a comprehensive one providing not only for the development of commercial banking but also, as suggested above, the development of a system of industrial finance. This brings us back to the general question of banking re-organisation to which we now turn in the next section. It would be clear from these few remarks, however, that the draft Bill recently prepared by the Reserve Bank of India does not at all meet the requirements of the situation.

§ 5

BANKING CO-ORDINATION.

The co-ordination of banking institutions in the sphere of high finance may be studied from two points of view : co-ordination of those institutions as among themselves and co-ordination of the city with the village.

The absence of a true Central Bank is, perhaps, the most glaring, and the most characteristic, defect of the present system. To some extent, the Reserve Bank of India, by being a Bankers' Bank and a Bank of Issue is generally expected to remove this defect. But until the whole of the banking system of the country is rationalized, the mere establishment of the Reserve Bank would not act as a panacea. The discrepancies between the market rate and the rate of discount would not be removed until the Central Bank were capable of influencing the market through "open-market"

operations and until there were a well-organized bill market in the cities and the constituent banks took advantage of the rediscounting facilities offered by the Central Bank. All these features of Central Banking are absent in India at present. The primary consideration that has weighed with the authorities in the establishment of the Reserve Bank of India seems to have been political, namely, to safeguard the credit of India against any possibility of political manipulation by the Federal Legislature. In other words, the establishment of the Reserve Bank has not been the result of an effort to adjust all the parts of the financial system of the country to mutual advantage, informed with a common aim to promote the welfare of the country. For one thing, the establishment of the Reserve Bank will not by itself result in the rationalization of the vast machinery of indigenous banking controlling a considerable proportion of the credit facilities now obtainable in the country, nor will it result except to a very limited extent as contemplated in section 17, sub-sections 2 (b) and 4 (d) of the Reserve Bank Act, in bringing the sources from which agricultural finance is drawn within the ambit of the Reserve Bank's influence. Even the safeguard provided by the obligation put upon the "scheduled banks" to maintain balances with the Reserve Bank equivalent to a certain percentage of their demand and time liabilities has been found to be more apparent than real.

Section 18 of the Reserve Bank Act gives to the Bank the power of direct discount, that is, entitles the Bank to undertake open-market operations, as and when necessary, for the enforcement of its policy. Such open-market operations are essential if true central banking functions are to be discharged in case the rediscounting rate is ineffective. It enables the Bank not only to offset the adverse effects, if any, of exchange fluctuations and speculation, but also to expand or restrict credit by the sale or purchase of bills and securities and discounting them directly in the market. There is no doubt that it involves the Reserve Bank in competition with its constituent banks. It is however, in accordance with the accepted principles of central banking. The public will have to trust to the sense of responsibility and discretion of the Governor of the Bank in this regard and any artificial restrictions on this power might be dangerous. Here we come across an initial deficiency. While the power of the Reserve Bank to undertake open-market

operations is to be recognized as a necessary power, it is heavily discounted by two considerations. In the initial stages, there would not be any substantial amount of saleable Government securities nor of rediscounted commercial paper within the assets of the Bank, so that at least in one direction it would be unable to influence the market. Even when the Bank will hold a sufficiency of such commercial paper, its open-market functions would still remain theoretical in the absence of a properly organized and a steady bill market where eligible bills could be bought and sold.

As regards the indigenous banks and shroffs, it is to be noted that with one or two exceptions, the list of "scheduled banks" does not include the indigenous bankers. The chief difficulty, it is said, is the absence of the definition of a Bank or Banker. Neither the Negotiable Instruments Act nor the Indian Companies Act has given a precise and satisfactory definition of the word. Naturally, the list of scheduled banks has omitted to include any indigenous banker or banking house, some of which combine banking functions with other non-monetary activities. There are, however, many indigenous banking houses which, like the Bank of Chettinad, Madras, could be included within the list. Under section 42, sub-section 6 of the Reserve Bank Act, the Governor-General-in-Council can, by notification in the *Gazette of India* direct the inclusion in the Second Schedule of any Company which carries on the business of banking in British India and which is a Company as defined by clause (2) of section 2 of the Indian Companies Act or a Corporation or Company incorporated by or under any law in force in any place outside British India, and has a paid up capital and reserves of an aggregate value of not less than five lakhs of rupees. The scheduled list already contains the names of the well-known Exchange Banks of India. It should also have been made clear that any person or company whose functions include deposit attracting and the payment of the same by means of cheques or through other recognized instruments in addition to making loans and advances, provided that the capital and reserves are valued at not less than Rs. 5 lakhs, should be included in the list of scheduled banks. And, as Dr. Ramchandra Rau observed, many of the indigenous bankers can "select specialization in bill-broking or take up the duties of the exchange-broker more actively. The partnership indigenous banking firms and the city shroffs can be easily developed into acceptance companies or discount companies

securing proper contact with the Joint Stock Banks and the money markets.”*

In a preceding section, I have spoken of the isolation of the centres of rural finance from high finance and the money market, I have already referred above to section 17 sub-sections 2(b) and 4(d) of the Reserve Bank Act which allows the Bank to buy, sell or rediscount promissory notes drawn and payable in India and bearing two or more good signatures one of which shall be that of a provincial co-operative bank for the purpose of financing seasonal agricultural operations or the marketing of crops, with not more than nine months' maturity: or to make loans or advances, repayable on demand, on the expiry of fixed periods not exceeding ninety days, on the security of promissory notes of a provincial co-operative bank, supported by documents evidencing title to goods which have been transferred, assigned, hypothecated or pledged to the bank as security for a cash credit or overdraft granted for *bona fide* commercial or trade transactions or for the purpose of financing seasonal agricultural operations or the marketing of crops, with stipulations as regards the proportion of the different classes of securities (that is, according to the period of maturity) these can be held at any time in the Banking Department. It is evident that the facilities granted are extremely limited.† It should have been possible, we think, to include all the central co-operative banks, besides the provincial co-operative bank, in the list of scheduled banks, and to limit the advances on co-operative paper to a period of six months instead of ninety days. There are many—Mr. Brayne is one of them—who would prefer to see the co-operative organization develop separately and independently. I have already anticipated this objection by pointing out that the co-operative movement has touched only a fringe of the problem of agricultural finance and that additional resources need to be tapped if the money-lender is to be substituted by a better and more generous provision of credit facilities. Agricultural and industrial producers have been brought within the orbit of the banking system of the United States of America. Why should not the same happen in

*Vide Dr. Ramchandra Rau : *Banks and the Money Market*, p. 95

†It should be seen that these facilities are even less than those which the Imperial Bank of India normally allowed to co-operative Banks. See Mr. L. A. Brayne's Memorandum to the Report of the Joint Select Committee on the 1927-28 Bill.

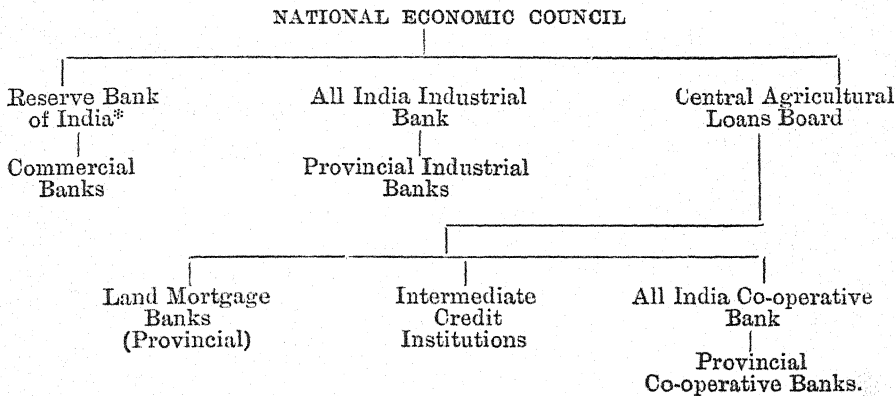
India? It must also be investigated how far the mufassil shroff may safely act as the agent of the Reserve Bank. Unless the mufassil shroff and the indigenous banker of the city are brought within the ambit of modern banking system and induced to use the modern instruments of credit, the real co-ordination of the Indian banking system will not be achieved. It is particularly for this reason that a special Bank Act is necessary. Of course, the successful functioning of a complete banking system on modern lines requires as a condition precedent the modernising of agricultural and industrial operations. Having regard to the conditions of India, it is evident that on an overwhelming part of the credit facilities will continue to be required for the financing of agricultural operations. In order to provide for a scientific system of agricultural credit and to link it with the centres of high finance, it would be necessary to provide for a system of gradation and standardization of agricultural products, to improve the system of marketing, and to develop the system of transport. Similarly, in the case of industrial credit, the indigenous instruments of credit must be brought into line with modern practice and legal requirements. The whole subject requires careful study and investigation. A committee of experts should, I think, be appointed without delay to suggest how best the co-ordination of credit can be achieved in this country. This should be considered as the starting point of any scheme of banking rationalization.

§ 6

CONCLUSION.

We are now in a position to envisage the whole scheme of banking and credit control as contemplated in this chapter. At the top of the banking system there should stand a re-constituted Reserve Bank of India in order that it might function as a true Central Bank controlling the entire sphere of commercial credit. In the sphere of industrial finance, the apex organization will be provided by the proposed Industrial Credit Corporation. The highest authority in the case of agricultural credit would be the Central Agricultural Loans Board which should be divided into three departments controlling long-term credit supplied by the land banks, intermediate-term credit by a special type of institutions corresponding to the American Intermediate Credit Bank and short-term

credit supplied by the co-operative credit system of which the apex organization should be an all-India Co-operative Bank co-ordinating the work of the Provincial Banks. These three organizations for the supply, regulation and control of credit should be placed directly under the charge of the National Economic Council along with the other National Boards. The position may be diagrammatically represented as follows :



The above diagram, it will not be difficult to find out, is not a perfect one. In fact, the diagram cannot be perfectly followed unless there is already existing a clear demarcation between the different forms of credit. This is, as matters stand now, by no means the case. No doubt commercial credit is to a certain extent demarcated from industrial credit on the one hand, and agricultural credit on the other. But there has been no specialization of the different institutions for the supply of different forms of credit. We have seen that the indigenous banker or the village moneylender does not make any rigid distinction between the purposes for which credit is wanted or supplied. Even the Co-operative Banks do not distinguish too rigorously between long-term and short-term credit. On the other hand, some of the commercial banks take up cautiously a certain amount of industrial financing. The Reserve Bank of India maintains an agricultural credit department, thus admitting to a certain extent not only the differentiation between commercial and agricultural credit but also the necessity of co-ordinating the same. The proposals

*The Reserve Bank of India Act must be modified and its control nationalized in order that it might play its allotted part—it is needless to add that it would be a fundamental part—in the planning of our national economy.

put forward above make an attempt at a scientific classification of the different forms of credit and at institutional specialization for the supply of the same. The point is that the present chaos in the world of Indian banking must be replaced by a well-regulated system. The process may be a gradual one, and even a difficult one. But the ideal must be kept in view, and as in the case of all forms of planning, the difficulty of any endeavour should not be permitted to be pleaded as an excuse for an attitude of indifference, if not of despair.

CHAPTER XXVII

TARIFF REFORM

§ 1

THE EXISTING INIQUITIES.

Recent debates in the Indian Legislature on the revision of India's tariffs and taxes have more than once brought to the fore an important question of economic policy. It seems that the Government of India are conscious of the necessity of rationalizing India's taxes and tariffs and they contemplate shortly to take up a thorough investigation of the Indian fiscal system. Over a decade has now passed since India adopted a protective policy which now governs a large section of the import tariff. At the time that the Indian Taxation Enquiry Committee reported, the policy of discriminating protection had just been initiated so that many of the findings of the Committee were either premature while others were soon vitiated by rapid and drastic changes in the import tariffs. There have been fundamental transformations in the structure both of the customs schedules and the system of taxation brought about by the emergency of 1931. The burden on the different classes of the people has also been changed on account of this policy while the effect on trade and industries has been anything but definite ever since a protective wall was built behind the high general surcharges imposed under Section 4 of the Indian Finance (Supplementary and Extending) Act of 1931. Naturally the time is ripe for a stock-taking of the Indian fiscal situation at a date as early as possible.

Some of the iniquities of the system of Indian taxation and tariffs have been ably exposed by Dr. Hirendra Lal Dey in his

work on *The Indian Tariff Problem*. He points out that the canon of ability in taxation has come to be interpreted as progressive taxation and that in practically every modern country there is "a marked tendency to so devise and interrelate the different taxes within the fiscal system as a whole that the distribution of the burden of taxation among the members of the several income groups may conform at least approximately to the principle of progression." He next points out that while direct taxes on property and income satisfy largely the ideal of progression, indirect taxes on consumption often result in the iniquity of sharp regression. This general statement is of course subject to modifications depending on "the nature and standard of consumption of the different income groups" within the economic community, but in a country where the standard of consumption is uniformly low, the general proposition may be accepted that the larger the proportion of the total revenues raised by direct taxes, the greater the approximation to the principle of progression, and the larger the proportion of the revenues contributed by indirect taxes, the greater is the likelihood of the iniquity of regression.

We may now put these principles to Indian test. There is no doubt that on account of the large proportion of the population of our country who are on or just above the poverty line, there must necessarily be a considerable proportion of indirect taxes in the Indian system for the purpose of reaching these classes and for raising sufficient revenues to meet the requirements of the State. But that very fact would tend to make the system sharply regressive. One way of counterbalancing the regressive character of this system would be to secure a much steeper graduation of the taxes on income and property. Coming to the Indian system we find that, omitting land revenue which in a manner is *sui generis*, on an average for 1926-29,* income taxes and super-taxes contributed 15·21 per cent of the tax revenues while the proceeds of the customs and excise duties contributed 70·72 per cent. These percentages stand in marked contrast to the corresponding percentages in the Western countries including the United Kingdom.† If, however, land revenue is included within the category of a direct tax (which

*These figures are taken from the *Indian Tariff Problem* by Dr. H. L. Dey, Chap. I.

†See also Colwyn Committee's Report.

I am inclined to do since the land revenue is actually paid out of the income from agriculture though the method of assessment is different, being in the nature of a tax on rent), the percentages are respectively 36 for direct-taxes and 53·38 for indirect taxes.

If we look into the schedules of direct and indirect taxes separately, we shall come across further elements of regression. Taking the indirect taxes first, we find, again on the basis of the figures for 1926-29, that the taxes on the necessities of life and means of production comprised as much as 42·19 per cent on the total customs and excise revenue, and 29·84 per cent of the total tax revenue excluding land revenue, or 22·51 per cent, inclusive of land revenue. The corresponding percentages in the case of the United Kingdom are 14·36 and 5·59. Since the proportion that the expenditure on the necessities of life bears to the total income decreases in the case of the higher ranges of the income, the regressive character of the indirect taxes ought to be corrected by a relatively higher rate of progression in the case particularly of the intermediate and larger incomes. But the particulars given by the Indian Taxation Enquiry Committee in paragraph 244 of their Report show that so far as the intermediate ranges of income are concerned (£1000-£10,000) the Indian rates are about $\frac{2}{3}$ ths of the English rates for a married man with three children, and about a third of those for bachelors while in the higher ranges of income (£50,000 and over) the English rates are 50 per cent (approx.) compared to the Indian rates of 32·9 per cent on incomes of £50,000 and 39·9 per cent on incomes of £10,000 and above. On the lower ranges of income, the Indian rates are comparable with those in the other countries. This shows that the Indian rates are not progressive enough.

All these figures, of course, exclude the taxes imposed since these figures were compiled. As has been noted, the schedules of taxation and tariffs have since been drastically altered by the adoption of a protective policy and by the requirements of depression finance. The figures given below are accordingly calculated on the average of the figures for 1930-31 to 1933-34.*

*So far as the figures relating to Customs and Excise are concerned, only the Actuals are given. The Income Tax figures include Actuals for 1930-31 and 1931-32 and Revised figures for 1932-33 and 1933-34. In all other cases the figures are based on the Actuals of all the Provinces for the first two years, Revised for 1932-33 and Estimates for 1933-34, except Bengal in which case Actuals for all the four years have been taken.

TABLE
Percentage contribution of Direct and Indirect Taxes in India.
(Central and Provincial.)

	Amount in crores	Percentage of total
1. Income Tax and Super Tax	16.56	14.8
2. Stamps	12.15	10.9
3. Land Revenue	33.70	30.1
4. Customs and Excise	49.53	44.2
<i>Total</i>	<i>111.94</i>	<i>100.00</i>

Or, if land revenue is excluded, we get the following table :—

	Amount in crores	Percentage of total
1. Income Tax and Super Tax ...	16.56	21.17
2. Stamps	12.15	15.53
3. Customs and Excise	49.53	63.30
<i>Total</i>	<i>78.24</i>	<i>100.00</i>

Below are given for purposes of comparison the figures given by Dr. H. L. Dey (basis : 1926-29)

TABLE
 (CENTRAL AND PROVINCIAL)

	<i>Percentage of total inclusive of land revenue</i>	<i>Percentage of total exclusive of land revenue</i>
1. Income Tax and Super Tax	11.47	15.21
2. Stamps	10.61	14.07
3. Land Revenue	24.54	.....
4. Customs and Excise	53.38	73.72

It will be seen that there was some improvement in the position compared to 1929, for customs and excise constitute now a somewhat lesser proportion of the taxes than they did formerly. But the proportion is still high.

Dr. Dey has constructed another interesting table giving the proportion which the duties on the necessities of life and means of production bear to the total customs and excise revenues of India and compared them with the English duties. The comparison is, of course, unfavourable to India. I have made a careful calculation, similar to that made by Dr. Dey on the basis of the four principal years 1930-31 to 1933-34 which shows that out of a total customs and excise revenue (including Salt) of Rs. 57 crores, the customs and excise duties levied on the necessities of life and means of production (including machineries) yield about Rs. 34 crores or

about 60 per cent as compared to 42.19 per cent in Dr. Dey's table. Here, therefore, is a distinctly retrograde step. Since 1933-34, customs revenue has suffered further deterioration and we are yet to know if any likely improvement in revenue will take it up to the 50 crore mark. With a further drop in the total customs and excise revenues, we have had two other excises levied on necessities, namely, sugar and match, which between them are expected to contribute about Rs. 3 crores in revenue. If our calculations are revised accordingly, fully two-thirds of the customs and excise schedules would be represented by the taxation of necessities and means of production. Could we conceive of a more irrational schedule ?

§ 2

INCOME TAX.

As regards the structure of the income tax rates, I have already referred to the observations of the Taxation Enquiry Committee on the subject. The rates have since been put up. On an analysis of these rates it will be found that the percentage of the increase in the rates after 1931 has been haphazard for the different ranges of income, but still, as before, the intermediate and the higher ranges of incomes have been more or less lightly let off.

TABLE

Incomes	p. c. increase in the rates (exclusive of surcharge)
2000-4999	20 p. c.
5000-9999	50 p. c.
10,000-14,999	30 p. c.
15,000-19,999	78 p. c.
20,000-29,999	59 p. c.
30,000-39,999	53 p. c.
40,000-49,999	39-44 p. c.

Apart from the fact that the percentage of the increase in rates in the case of the largest ranges of income (personal) is smaller than in the case of the intermediate incomes, the rates such as they are still compare unfavourably with the English rates of 1924, not to speak of the subsequent enhancements of the rates in that country.

The recent introduction of the "slab" system has no doubt to a certain extent rectified this position. But even now the Income Tax Law, in spite of the drastic modification that has been made

by the amendments accepted by the Legislature in its last session, contains many features that are indefensible on the grounds of reason or justice. Some of the provisions, particularly those relating to the taxation of foreign income, are frankly in the nature of a compromise. It must, however, be recognized that having regard to the present alignment of parties in the Central Legislature, the amending law has tried its best to meet the criticisms that have been urged against the old law relating to the taxation of foreign income and investments. The most important defect of the new law is, however, the fact that the governing object of the new law has been less to secure a more equitable distribution of the burdens amongst its several classes of tax-payers than to secure larger revenues for the Government. It is true that the new schedule of the rates of income tax has favoured the lower ranges of the income at the cost of the higher as compared with the schedule that had obtained before the new rates were made effective. For a comparative study of the two schedules, reference may be made to the appendix 3 of the *Income Tax Enquiry Report*, 1936. Thus, according to that schedule, an income of Rs. 2,500 a year would pay a tax of 3·4 per cent while under the slab system as proposed in the Report, the same income would pay a tax at the rate of 1·9 per cent. The corresponding rates for an income of Rs. 3,500 would be 3·4 per cent under the old schedule and 2·7 per cent under the suggested scale. There is an approximation of the two rates in the case of an income of Rs. 5,000 a year, the old rate being 3·4 per cent and the slab rate working out at 3·3 per cent. But while the old rate jumped up to 5·1 per cent in the case of an income of Rs. 5,333 a year, the slab rate remained at 3·6 per cent. When, however, the income reached the level of Rs. 20,000 a year, the slab rate would exceed the old rate, being 9·8 per cent as compared to the old rate of 9 per cent. In the case of an income of Rs. 80,000 a year, the old rate would work out at 18·6 per cent while the slab rate would work out at 23·9 per cent. The extent of the difference would be more apparent in the absolute figures of the taxes than in the percentages. In the case of an income of Rs. 80,000, for instance, the tax payable would amount to Rs. 14,840 under the old rate, while under the slab rate as suggested by the Report, the tax would amount to Rs. 19,149. It would be seen that with every increase in the range of the income, the percentage

of the tax increases under the slab system. To that extent there is an attempt to correct the discrepancies involved in the old schedule. But a little study of the rates would at once show that even in the case of the new rates the percentage increase in the rates applicable to the different ranges of income becomes progressively less.

§ 3

CUSTOMS.

This brief discussion is, we believe, sufficient to reveal the irrational character of the present distribution of the direct and indirect taxes. So far as questions of policy are concerned, the unsatisfactory nature of the present system is further revealed. In the customs tariff, we have practically three lists, the free-list, the revenue tariff and the protective tariff. The main principles underlying the free list, so far as any principles can be discovered, seem to be that certain food grains such as grain and pulse (but not wheat which is dutiable at Rs. 2 per cent and flour) and hops, sago-flour and salt imported and issued in accordance with rules framed with the previous sanction of the Governor-General for use in the process of manufacture and certain industrial purposes are exempted; that knowledge and its dissemination is not taxed (though paper and stationery are taxed); that agricultural implements, dairy and poultry farming appliances and manures of all sorts are exempted; and that personal uniforms, equipments and stores are included in the free list. But these general rules do not exhaust the whole list, some of the items being really inexplicable. For instance, we find no justification for including precious stones which are unset and imported uncut and pearls which are unset within the free list. Apart from the fact that these articles do not satisfy the principles set out above, the trade in these actually shows a tendency to increase, a duty of 30 per cent easily yielding a quarter of a crore in revenue in normal times. Then again, it is difficult to understand why hides and skins, raw and salted, are allowed to be imported duty free, while till 1934, the exports of this commodity were subjected to a duty. Of the articles which ought to be included within the free list but are not, one may mention printing types and printer's ink, newsprint, machinery, unexposed cinema films, etc., on the ground that taxation of these articles

either impose a burden on knowledge or hamper the development of industries.

The revenue schedule has long ceased to have a purely revenue aspect. In 1922, the general import duty was raised to 15 per cent with the important exception of cotton piecegoods which were left at 12 per cent. Till recently the duty of 25 per cent on sugar had a protective effect. The emergency surcharges imposed since 1931 have also led to such an effect in the case of many minor industries. The question has recently been raised in an acute form by the competition of Japan which has increased her exports to India of certain articles belonging to these categories by as much as 100 per cent or even more. The competition is particularly keen in the case of the glass industry, earthenware and porcelain, soap etc.* A high revenue tariff has naturally been of great advantage to these industries of India fighting cut-throat competition. In the case of the industries mentioned, there have been loud and insistent demands for putting up the tariff still further and to make it frankly protective and the Government have been obliged to respond. In some cases, on the other hand, the emergency surcharges have given an additional dose of protection to an already protected industry. The sugar industry has been a typical case. The double dose of protection has not only been followed by what is believed to be a too rapid expansion of the industry but also a large accumulation of abnormal profits in which the growers of sugar-cane had till recently but little share.† Now if the rapid development of an industry is a fit subject for taxation, so should a rapid development of trade in any particular commodity. A small revenue duty on the exports of gold and linseed would, one might suggest, come to the relief of a much harassed exchequer. Thus, the exports of linseed have reached the high water-mark of the pre-war average, and with a turn in the corner of depression, a specific duty of, say, 4 annas per cwt. would easily bring in Rs. 20 lakhs to the exchequer, whereas in the case of gold, on the assumption that "distress gold" has all been

* See an article on "Small Industries and Japanese Competition" by Mr. Nalini R. Sarker, published in the *Indian Finance*, Industries Supplement, dated 31-1-1934.

† For the opposite view, *vide* the speech of Mr. J. M. Lowrie, President of the Upper India Chamber of Commerce at the annual session of the Associated Chambers of Commerce held in 1933. It was urged that the whole of the protective duty *plus* the surcharge was necessary to protect the industry against the low priced imports from Java.

sold out, a nominal duty of $2\frac{1}{2}$ per cent could have yielded over a crore to the treasury without hampering the exports or affecting the interests of the masses adversely. Of the other revenue duties the readjustment of the duties on cigarettes and tobacco imports calls for a little comment. A high duty on cigarettes and a low duty on unmanufactured tobacco was criticised by the Taxation Enquiry Committee on the ground that it had led to a large local manufacture of cigarettes in which a considerable proportion of imported tobacco was used. The benefits of this indirect protection accrued mainly to non-Indian concerns. The recent readjustment of duty—a higher duty on raw tobacco and lower duty on cigarettes—will, I am afraid, lead to a reversal of this process, which is not desirable.

§ 4

PREFERENTIAL RATES.

One of the new principles introduced in the devising of our revenue tariffs is the application of differential duties in favour of the United Kingdom goods. Apart from the constitutional implications of the Ottawa Agreement or of the recently passed Indo-British Trade Agreement, a rigid application of the principle of differential duties had at least one curious sequel in the case of the last Indo-British Agreement. This Agreement laid down the general proposition under which "the Government of India undertake that the measure of protection to be afforded shall only be such as, and no more than, will equate the prices of imported goods to fair selling prices for similar goods produced in India, and that wherever possible, having regard to the provisions of this article, lower rates of duty shall be imposed on goods of United Kingdom origin; * and that "Different margins of duty established in accordance with the principles laid down in the preceding clauses of this article as between United Kingdom goods on the one hand and foreign goods on the other shall not be altered to the detriment of United Kingdom goods."†

All these provisions were of course governed by the full recognition of the right of the Government of India to carry out their policy of discriminating protection, of safeguarding industries under

*Indo-British Trade Agreement, Article III(2).

†*Ibid* Article III (3).

the Safeguarding Act of 1933 and to impose revenue surcharges whenever necessary. But that did not affect the new principles introduced in the Agreement, which are, as Dr. Pramatha Nath Banerjea pointed out in the Legislative Assembly, first, that the application of the principle of discriminatory protection had been restricted, secondly, that India had been committed to a principle of safeguarding British industries, and thirdly, that India had parted with her power to negotiate a trade agreement with other countries on a free basis. For the Agreement did not recognize that conditions affecting industries in India, in the United Kingdom and in the foreign countries may be such that the Indian industry requires a higher level of protection against United Kingdom goods than against foreign goods in the interests of the economic well-being of India. That this is not a theoretical assumption will be easily apparent from the direction of our trade. The gradual loss of some of our important foreign markets may further make it necessary for us now or in the near future to enter into reciprocal trade relations with those countries (*e. g.* Germany, Russia, United States, Japan), and in view of the greater advantages to be secured, it may be necessary to alter the differential margin of duty established between United Kingdom goods and goods of foreign countries to the detriment of the former. The Indo-British Agreement bars out the possibility of any action being taken in that direction.

§ 5

EXCISE DUTIES.

One consequence of the application of the policy of protection in the Indian tariff system has been that the burden on the consumers of the protected commodities has been enhanced. It is well-known that protection involves a burden on the consumer, though the extent of the burden may differ in the case of the different commodities protected. This burden is justified only to the extent that it is necessary to enable industries to develop that will ultimately be able to compete with the foreign products on a free basis. The time for which the protection should be granted should also be limited to the minimum period necessary for the industry to adjust itself the forces of free competition. Many of the Indian industries have now enjoyed a fairly long period of protection but it cannot be said in the case of all of them that they have reached

the conditions which might enable them to dispense with the necessity of protection. In the case of some industries, however, it has been possible for the Government to reduce the margin of protection by means of the imposition of excise duties. Sugar and salt were two of the commodities, widely used, which are subjected both to a protective import duty and excise duty. It seems that one of the fundamental purposes of any revision of the system of taxation in this country should be to investigate the question of the burden of the different taxes on the Indian consumer. The burden can be usually reduced in two ways, either by withdrawing the protective part of the customs duties or by imposing countervailing excise duties. Since it is always desirable in such cases to proceed with caution, a system of countervailing excise duties gradually offsetting the protection granted might be tried as an experiment to find out how far the industries concerned stand to be affected by a reduction of the margin of protection. This procedure of reducing the burden of a tax is not strictly scientific because while a protective duty increases the burden on the consumer of the commodity taxed, countervailing excise duties afford relief not to such consumers *qua* consumers but to the general body of taxpayers. In the circumstances, however, this seems to be the more practical procedure.

Another consequence of the heavy incidence of protective tariff is that a customs schedule becomes very soon inelastic. This, of course, is natural because a protective tariff cannot at the same time be a revenue tariff except in certain exceptional cases. We cannot, however, ignore the fact that the customs duties have so far been one of the principal sources of revenue to the Government of India. Two circumstances have been responsible for drying up this source of revenue. The first is the introduction of the principle of protection in the shape of high import duties; the second is the high level of the non-protective duties necessitated by the emergency that had to be faced in 1931. Any attempt to revise the tariff system would be pointless unless these two circumstances were given due consideration. The Government of India have to discharge important functions for which adequate funds must be found. Besides, as the custodian of India's financial credit, the solvency of the Central Budget must be assured beyond any doubt. Two ways open to the Government to reimburse the loss caused to the Central revenues by the introduction of a protective tariff are (1) the imposition of

export duties and (2) the imposition of excise duties. Those articles of export which command a more or less inelastic demand in the world's market can well afford to bear an export tax. A good example is the export tax on jute manufactures. Such taxes can be easily multiplied though the selection of the commodities to be taxed should be left to an expert committee.

As regards the excise duties, here again, there should be ample scope to a Government in search of revenue to tap profitable sources of revenue. By excise duties, we must make it clear, we do not include the restrictive excises. Certain practical considerations no doubt limit the imposition of excise duties, but with the increased industrialization of the country, it should be possible for the Government to frame a suitable schedule of excise duties. I have already proposed a system of countervailing excise duties as an experimental method to test whether the industry concerned would be able to bear such taxes. Where import duties are levied for revenue purposes alone, it would be customary to impose countervailing excise duties, particularly in the case of articles having an inelastic demand. Excise duties are thus particularly suitable in the case of articles which are used by the wealthy. They enjoy an inelastic demand. In the case where a particular article is a necessary of life, excise duties should not be imposed in such a manner as to press too heavily on the poorer classes.* Here again, in view of the growing importance of excise duties, the whole subject deserves to be investigated by an expert committee. This is particularly necessary for the removal of tariff inequalities, if any, brought about by duties on competing products.

§ 6

OTHER SOURCES OF REVENUE.

If the rationalization of the Indian tax system is to be carried out to its logical limits, it must be related to the extent and the purposes of public expenditure. The activities of the modern State have increased so much in recent years that it is no longer feasible to follow the good old maxim of cutting the coat according to one's cloth, that is, of limiting the expenditure to the revenues that can

*The reader may consult the Report of the Indian Taxation Inquiry Committee (1924-25) pp. 140-156 for a full discussion of the excise duties levied on salt.

be obtained. The State has now to undertake expenditure of various kinds, mostly of the social service variety, and the problem is to raise sufficient revenue to meet the demands of such expenditure. Turning to the case of India, we find that there is too little of social expenditure while there is too much of expenditure on security and debt services of the unproductive variety. Sir Stanley Reed has very aptly described the costly nature of the Indian administration as "a Rolls-Royce administration in a country of dog carts." It was many years ago that this comparison was made but it remains true up to the present time. In fact, if the growth of public expenditure in India is studied we shall find that public expenditure at present is 150 per cent of what it was in the pre-War period in spite of the economies that have been effected since the onset of the World Depression. This has automatically involved an increase in the incidence of taxation. We have it on the authority of Sir Purshottamdas Thakurdas that during the period 1913-22 the incidence of taxation *per capita* increased from Rs. 2-14-5 to Rs. 6-1-8 and Professor Findlay Shirras has calculated that in 1931-32, the incidence of taxation in India was Rs. 5'7. I have not gone into the accuracy of the figures quoted by Sir Purshottamdas Thakurdas or by Professor Shirras, but there need not be any doubt that the incidence of taxation has increased vastly since 1933. When it is known that by far the larger proportion of the taxes raised in India is of the nature of indirect taxation, one comes to realise that in India the poor are taxed more than the rich. It is of course true, as Sir Walter Layton observed in his report to the Indian Statutory Commission (1928) that "the extent to which taxation is felt as a burden depends very largely on the objects on which a Government spends its revenue." It cannot, however, be said of Indian expenditure that the taxes that the poor pay are returned to them in the form of social services. Out of a total central expenditure of Rs. 138'40 crores in 1921-22, the Army, Civil Administration and Debt Services between them accounted for more than Rs. 93 crores. The question of tax reform is thus concerned with two main problems. In the first place, the expenditure on unproductive services should be reduced so as to release funds which might be made available for the social services of which India stands in urgent need. Secondly, the burden of taxation has to be more equitably distributed which means that methods must be found by

which the richer classes of the society may be more directly taxed than they are at present.

Bearing these two factors in mind, the next question that arises is how to reduce the cost of the administration including military expenditure, and secondly, what new direct taxes can be proposed for taxing the rich? The first question we reserve for later treatment. As regards the second one, a number of taxes have been proposed by economists, financiers and others designed to get the rich to contribute more to the coffers of the State. Inheritance tax is one of these. In fact, it may be proposed that the whole question of tax revision should be referred for an expert investigation to a competent authority. It is about 15 years ago that the Indian Taxation Enquiry Committee had submitted its valuable report. Since then the problems of Indian finance have been radically altered and it is desirable that another comprehensive enquiry should be made into the system of taxation. The aim should be to bring about an immediate increase in public expenditure by at least 50 per cent and to adjust the taxes to that scale of expenditure. The new investigation must consequently be based on this desideratum, and if it comes to proposing new taxes, the taxes must be such as would not bear heavily on the poorer classes.

This brings us, again, to the question of the incidence of taxation amongst the various classes of the population. The determination of the incidence of taxation is always difficult. It is particularly difficult in a country like India where reliable statistical material is not available. The Indian Taxation Enquiry Committee made an attempt to examine the incidence of certain taxes, but the attempt was based "upon such general knowledge of the comparative incomes and standards of living of classes of the population and such general considerations as to the desirability or the reverse of particular taxes from the point of view of their incidence on particular classes as are available to them."* Though there have been drastic changes in the fiscal structure of the country, the main conclusions of the Taxation Committee might even now bear repetition. They may be summarised as follows :

The duty on salt and customs duties fall generally speaking on the whole of India including the Indian States. The burden of

*Report of the *Indian Taxation Enquiry Committee* (1925) Chapter XIV.

taxation on the poorest class, corrected with reference to the price index, has on the whole increased since the beginning of the European War, mainly owing to the increase or new imposition of customs duties on articles of universal consumption. Customs and salt, as well as municipal octroi, press very heavily upon the urban labourers. It is estimated that the incidence of central, provincial and local taxation per head of this class has become nearly double since 1911-14. The position of the landless agricultural labourers is somewhat different from that of the urban labourers in that they receive lower wages but consume less imported or excisable goods. They are free of municipal taxes but pay capitation or apportioned taxes in some provinces. The average incidence has, in this case also, increased by 100 per cent. The number of small holders of lands is very large. The lot of this class of persons is a very hard one. They pay, in addition to the land revenue and cesses, the same taxes as the daily labourers. The condition of the peasant proprietors with substantial holdings is much better. The land revenue, being imposed at a flat rate, takes a smaller proportion of their surplus than it does of the small holders. The tax burden on the majority of large landholders rests more lightly than on other classes, and some addition to it is not likely to prove unjust. While general prices have increased by over 100 per cent, the land revenue has increased by only 20 per cent, and the road cess to a very small extent. The village traders escape with a light share of taxation, but the burden on the small traders in towns is a little heavier. The larger traders in towns generally bear a light burden. The big merchant in the cities have borne the brunt of the new burdens that have been imposed since the War. But even then, their burden is not heavy as compared with the burden on similar classes in other countries. The lower professional class has suffered since the War, more by reason of its comparatively high standard of living and of the fact that its earnings have not kept pace with the rise in prices, than on account of any increase in the incidence of taxation. The contribution of this class to the general taxation of the country is not large. The members of the professional classes of the higher grades pay the same taxes and enjoy the same standard of living as the big merchants.*

*Dr. P. N. Banerjee : *A History of Indian Taxation*. (1930) p. 16.

Since the Committee reported, however, India has passed through a severe economic depression along with the rest of the world from the effects of which she has hardly yet recovered. Being an agricultural country India has suffered more than the industrial countries of the West, and the defects of the Indian tax system which the conclusions of the Taxation Committee summarized above have exposed were accentuated, on the one hand, by the sharp recession in agricultural prices and on the other, by a substantial increase in the burden of taxation. If, therefore, an investigation is undertaken on a scientific basis into the incidence of taxation in India, we are certain to have a correct measure of the real problem of the reform of the Indian tax system. Before such an enquiry is possible we must have accurate statistics regarding the standard of living of the different classes of the Indian population, rural as well as urban—more particularly of the scales of their expenditure. A Charles Booth is yet to arise in India to undertake this gigantic task. The task might, however, be much simplified if the help of the students is enlisted during the summer holidays for the purpose of such an investigation. The planning authority will have to prepare a schedule of investigation setting forth, in a tabulated form, the different points on which information might be wanted. There is every reason to believe that if such schedules are issued under the authority of the National Economic Council, the youths of India will gladly respond to the call.

§ 7

CONDITIONS OF REFORM.

The Indo-British Trade Agreement and the Ottawa Agreement moreover, leave the Indian part of the bargain in an unsatisfactory state. While Britain has under her several Agreements been able to secure both specific and general improvement of her exports, India has not had corresponding benefits so far as her own export trade is concerned. But a significant fact of the present position is that, after a short break, Indian exports have once again exceeded her imports, but the favourable balance of trade is not yet such as to enable her to meet her foreign obligations without any exports of gold. Our tariff policy will, therefore, have to meet this situation and to be devised in such a manner as would encourage our exports instead of merely stimulating the imports. The fiscal policy of the depression

years has completely ignored this aspect of the question. The only positive advantage that India seems to have secured is in regard to the purchases of raw cotton by Japan, and of linseed by the United Kingdom under the Ottawa Agreement. The artificial wheat situation has also to some extent been corrected by the annual Wheat Import Duty Acts, and the measures taken under the Safeguarding Act and the Indian Tariff Amendment Act of 1934 also gave some protection to certain industries such as the glass and the pottery industries.

The second need that the new tariff policy will have to meet is more fundamental and therefore, more difficult. That is to say, the present position of India as an exporter of raw materials and importer of manufactured goods will have to be altered. This brings us to the policy of the protection of the infant industries and of the structure of the protective tariff. Since 1923, India has embarked upon a policy of discriminating protection, yet the manner in which it has been applied in practice, its effect on the composition of our trade, and the new regard for the necessity of imposing differential duties cannot be regarded as satisfactory features of the existing situation. To some extent, the long continued depression of trade has blurred the effects of the protection granted. The composition of our imports does not, however, suggest that the measure of protection granted to the different industries has been adequate enough. Both the cotton textile industry and the iron and steel industry had to be given additional doses of protection repeatedly during a relatively short period of time, while in some other cases the period of protection has been made so short-lived at the very first instance that the industries concerned have failed to attract suitable investments. This has been particularly so in regard to cotton textile and salt industries. The present position of the cotton textile industry is an eloquent testimony to the niggardly and inconsiderate *manner* in which protection has been granted to the industry. The iron and steel industry has been relatively successful because of the special circumstances affecting the industry. Even then the policy in regard to galvanized sheets and re-rolling mills leaves much to be desired. Finally, the policy of appointing *ad hoc* Tariff Boards to consider the question of protection to be given to each separate industry is not conducive to securing adequate co-ordination of the effects of the Tariff on the industrial situation as a whole or an equitable

distribution of the incidence of the taxes on agriculture, industries and the consuming classes.

§ 8

TARIFF COMMISSION.

Any scheme of tariff reform must, in other words, contemplate the institution of a permanent Tariff Commission and a standing organization for the purpose of securing a rational administration of the tariffs. One of the special duties to be entrusted to such a body in India would be to consider questions of double taxation not only in relation to direct taxes on income and property but even in relation to customs tariffs. Taxation of foreign investments and profits belong to this category. In India, the present system is most unsatisfactory. The principle of subjective taxation does not seem to have made much headway in this country, which is likely to impede the construction of a well-regulated tariff and taxation schedule, in which each income and investment-earning class shall bear a burden appropriate to the class.

The composition of the Tariff Commission presents some difficulty. The question must, first of all, be definitely related to the Economic Plan, and since tariffs are a most potent instrument of industrial development, their regulation must be part of a scheme of national development. Secondly, the Commission must be constituted on a national, but not exclusive, basis. The power and importance of the vested interests in our country are too strong to allow us to move forward without any reference to those interests. And yet the Commission must predominantly represent national interests. These interests demand an equitable distribution of the burden of taxation. This means several things. It means that the present proportion of direct and indirect taxes must go ; it means, secondly, that the incidence of the tariffs as a whole must be equitably distributed as between the industries concerned so that no industry is made excessively profitable while others are compelled to drag on an overburdened existence ; thirdly, it means that the question of national and foreign investments must be solved on a rational basis ; and finally, it means that the interests of agriculture must have a suitable and adequate share in the policy of economic development through tariffs.

Enough has been said to indicate that the whole policy of our

taxation and tariffs needs to be revised. That raises the question of procedure. Before the permanent Tariff Commission is appointed and begins to work, a list of the basic rates of duty must have to be fixed upon. This work, I understand, the Government is shortly going to undertake. It is suggested here that the National Economic Council should first appoint a small expert Committee entrusted with the work of revising the tariff as well as taxes, subject to the general lines policy laid down by the parent body. Within these limits the Committee should be called upon to rationalize the fiscal system by removing the several defects and deficiencies to which attention has been drawn in this chapter, or others that may yet be revealed. Subject to the principles laid down by the National Economic Council, the Committee should also strive to discover the ways and means for augmenting the public revenues. After the basic duties have been fixed up and incorporated in a comprehensive Tariff and Finance Act, legislation should be passed to constitute a Permanent Tariff Commission on the lines of the American Tariff Act of 1922. Incorporation by legislation is necessary because the periodical changes in and manipulation of the tariffs that the Commission might have to advise upon from time to time must affect in a considerable degree the powers now vested in the executive Government, and also of the Legislature in so far as the latter would be expected in practice always to approve of the changes to be proposed by the Commission which would be an expert body. It would also be one of the duties of the Commission to recommend to the Government either on representations from the industries concerned or on their own initiative the conclusion of Trade Agreements or reciprocal Trade Treaties and to revise their terms from time to time. In short, the Commission should represent, by its constitution and functions, the national fiscal authority of the country and the guardian of her fiscal interests.

CHAPTER XXVIII

NATIONAL EXPENDITURE

§ 1

NATURE OF THE PROBLEM.

No plan, however well-laid, can ever succeed without the fullest control of national expenditure. If the Government of the country refuse either to execute or to bear the financial burden of any scheme that involves expenditure from the public funds it would be clearly useless to take the trouble of preparing a plan for economic reconstruction. It might be answered, perhaps, that we can at least make a beginning with only those schemes which do not involve any additional financial liability to the Government and leave the rest for execution till such time as the Government are able to provide the necessary funds. What is necessary, these critics might argue, is that the Government should be made to accord their 'administrative sanction' to these schemes for which they are not in a position immediately to bear any financial responsibility but which they approve, it being understood that as soon as funds are available the Government would take up the schemes which must have been prepared in advance.

Those critics who argue like this would seem to have missed the essential point of an economic plan. I have already pointed out that the Plan must be comprehensive and of an all-India character because the problems with which we have to deal do not admit of any compartmental treatment. I have also made it clear that without government assistance there would be no chance for the Plan to be successfully worked. Further, it is of the essence

of a plan that it must be executed within the shortest possible time, and that all parts of the Plan must move harmoniously together. The absurdity of according 'administrative sanction' while waiting indefinitely for funds to accumulate in order to work the Plan is so obvious that I need not labour the point. It is true that something can be done even within the existing resources, and perhaps, without the assistance of the Government, but that something cannot be by any stretch of the imagination be said to constitute a "plan". The effect of planning on the finances of the Government is twofold. In the first place, planning undoubtedly requires an augmentation of the national revenues to provide for a very much accelerated expenditure on the various schemes that would constitute the Plan. A good deal of such expenditure might no doubt be found from savings that could be effected in the existing budgets and also by a transfer of funds from certain heads of expenditure to others. This brings us to the second point, that is, to the necessity of rationalizing the public expenditure in this country.

So far as the question of augmenting the revenues of the country is concerned, the expert enquiry recommended in the previous chapter would no doubt suggest the ways and means of finding additional, and where necessary, alternative, sources of revenue. It would also be necessary to supplement the revenue income of the country by a judiciously framed loan programme. This must be strengthened by suitable measures for currency stabilization in accordance with the requirements of Indian agriculture, trade and commerce.

On the expenditure side, three questions will have to be borne in mind. In the first place, the Central Government as well as the Provincial Governments shall have to provide for their current needs and requirements. Secondly, funds must be made available for financing various schemes proposed under the Economic Plan. Thirdly, there must always be a flexible programme of expenditure which could be adjusted to meet any emergency situation brought about either by natural calamities as famines and floods or by any sudden collapse of the industrial or credit structure of the country resulting in large-scale unemployment. While the first and the third items will constitute the normal budgetary policy of each of the governments concerned, the financing of the Economic Plan might in certain cases have to be made through separate funds to be created

for the purpose. Before, however, I pass on to consider that aspect of the question, a brief reference may be made to the nature and growth of public expenditure in India.

§ 2

GROWTH OF PUBLIC EXPENDITURE (CENTRAL).

Turning our attention first to the growth of public expenditure in India, the outstanding fact is that since 1913-14 there has been a phenomenal growth of such expenditure in India central as well as provincial. Before the War, the central expenditure was of the order of Rs. 80 crores. During the exceptional years of the War, the expenditure reached its highest point in 1919-20 recording an increase of about 100 per cent during the period. After that the expenditure began to fall, with occasional rises. The following table will indicate the state of public expenditure in India during the decade 1921-30 (gross figures are given in crores of rupees) :

TABLE
Central Expenditure in India

Year	Expenditure
1921-22	143
1922-23	136
1923-24	130
1924-25	132
1925-26	130
1926-27	132
1927-28	127
1928-29	129
1929-30	132

These figures include expenditure charged to revenue in India as well as in England together with the loss incurred on exchange. It will be seen that the expenditure has remained fairly stationary round about the figure of Rs. 130 crores during the decade which shows the stationary character of central expenditure in this country. The Central Government undertakes but little liability on account of social services, the three principal items of the expenditure being Defence, Civil Establishment and Debt Services. The position may be further elucidated if we take net figures of expenditure and compare these with the revenue position :

TABLE *

Year	Net Central Revenue	Provincial Contribution	Total Revenue	Expenditure
1921-22	65.06	9.83	74.89	102.54
1922-23	74.71	9.20	83.91	98.93
1923-24	80.00	9.20	89.20	86.81
1924-25	85.44	9.20	94.64	88.96
1925-26	85.63	6.20	91.83	88.52
1926-27	85.05	5.17	90.22	87.26
1927-28	82.95	...	82.95	85.16
1928-29	85.43	...	85.43	86.49
1939-40	82.15 (Est.)	...	82.15	82.65 (Est.)

The foregoing table shows two results. If the first place, while revenue has remarkably increased during the decade beginning with 1921-22, the expenditure has remained fairly stationary during the same period. Secondly, if the provincial contributions are excluded, the Central Budget shows an accumulated deficit of Rs. 80 crores during the decade towards meeting which provincial contributions provided some Rs. 50 crores. It has already been pointed out that most of the central expenditure is taken up by Military Services, Civil Administration and Debt Services. The following table taken from Sir Walter Layton's Report to the Indian Statutory Commission will be read with interest :

TABLE

*Chief Items of Central Expenditure
(In Crores of Rs.)*

Year	Military Services (net)	Civil Administration (net)	Debt Services (net)
1921-22	69.81	8.64	14.89
1922-23	65.27	9.50	15.00
1923-24	56.23	8.65	14.17
1924-25	55.63	9.39	15.27
1925-26	56.00	9.87	14.12
1926-27	55.97	10.28	12.66
1927-28	54.79	10.22	11.99
1928-29	55.10	10.43	12.82

*This table is prepared from Sir Walter Layton's report to the Indian Statutory (Simon) Commission (1930), p. 219, except for the figure for 1939-40. In the table, Customs, Income-Tax, Salt, Tributes and Revenue (Land Revenue, Excise, Stamps etc.) from the directly administered areas have been taken gross and all other items net. Net profits or losses from railway and postal services have been added to or taken from the revenue figures as the case may be.

In 1939-40 the expenditure on Defence has been estimated at Rs. 45'18 crores. It may, however, be pointed out that this figure is in addition to (i) the receipt of the addition of £ 500,000 to the Garraan Contribution fixed at £ 1,500,000 since 1933 in aid of Indian Defence expenditure, (ii) the transfer to the Imperial Establishment of four British battalions, one cavalry regiment and five tank companies and (iii) drawing on Military Sinking Funds to the extent of Rs. 49 lakhs for purposes other than those for which they were set up ; the figure also allows for the receipt of £ 2,150,000 being the first part of the capital grant of £ 5,000,000 provided by Parliament for the re-equipment of certain British and Indian units in India and the provision of aircraft for the re-equipment of certain squadrons of the Royal Air Force. These figures confirm what is now a commonplace maxim of all text-books of Indian economics, namely, the heavy burden of military expenditure in our country. It is, of course, to be agreed that the significance of the high proportion of India's military expenditure can very well be exaggerated. The high proportion of the expenditure is largely due to the fact that the Central Government is concerned mostly with the administration of security services, and also because India has to defend a particularly difficult frontier on the North-West. A part of the army is also stated to be necessary to deal with the recurrent civil disturbances which have disfigured the history of India in recent years. It must, however, be noted that even after making allowance for all these facts the expenditure on the army remains unconscionably high. I shall try to show in the next section that a great part of the army that is maintained in India involves an unjust burden on the Indian Exchequer, the cost whereof should properly be debited to the Imperial Government. It is also possible to improve upon the traditional British policy with regard to the North-West Frontier.

§ 3

COST OF DEFENCE.

So far as the total strength of the army is concerned, the army can be divided into three broad categories, namely, the Internal Security Troops the purpose of which is to help in the preservation of internal peace and tranquillity ; the Covering Troops, which protect India against tribal invasions from across the frontiers ; and

the Field Army, which stands between India and the danger of external aggression, the classification being primarily designed for war conditions. The strength of these different categories of the army are as follows :—Internal Security Troops—70,000 ; Covering Troops—42,000 ; and the Field Army—69,000. The total strength is 1,81,000 of which 2,100 represents the strength of the Air Force, so that excluding the Air Force, the total strength of the army is 1,79,000. The figures are for 1934.

As regards the *British* personnel, somewhat more detailed tables are given below. The figures are as at April, 1935.

Total Officers with King's Commission	7,279
„ other ranks	59,296
Total Officers in Fighting Units or Staffs	4,571
„ other ranks in the same	54,446
Total Officers in Administrative and Ancillary Services	2,345
„ other ranks in the same	2,914
Total Officers in the Royal Indian Navy	98
„ other ranks in the same	42
Total Officers in the Royal Air Force	265
„ other ranks in the same	1,894

Or, if we take the Units :—

	No.	Strength
British Cavalry Regiments	5	(approx) 3,000
„ Infantry Battalions	45	40,500
„ Batteries of Artillery	78	10,000
„ Signal Engineers (Sappers and Miners), Tank Corps and Staffs		(approx) 4,000
„ Officers in Cavalries and Infantries of the Indian Army		1,700

The first set of figures is important from the point of view of the different purposes to which the army in its different categories is put. The significance of these purposes, so far as the financial burden of the army is concerned, will be discussed presently.

The second set of figures which refer exclusively to the British personnel in the army are also significant from the point of view of the financial burden that they involve so far as the defence of India is made to depend on the maintenance of large numbers of British forces. Since it is well known that the British soldier costs at least three times as much as the Indian, this aspect of the problem also must be considered. So far, however, as the officers are concerned, officers

holding the King's Commission, whether British or Indian, receive the same pay, rank for rank. Also, for army purposes, an Indian Officer holding the King's Commission is considered as a British Officer, so that a mere substitution of the British Officers will not, whatever be its national significance, be of much financial significance, unless the scales of the pay and allowances of the Indian Officers were lowered, or a different and more economical organization of the army were sanctioned.

During the last 16 years, there has been a reduction in the military expenditure by about 28 per cent, and it is in any case considerably less than the figure of Rs. 50 crores recommended by the Inchcape Committee as the ultimate "rock-bottom figure." But the expenditure is still substantially higher than the pre-War figure of Rs. 29 crores ; and while we think of it, one point stands out as an irrefutable argument in favour of the fact that India is bearing a disproportionate burden of military expenditure. Due to the War, the armaments expenditure of Great Britain increased between 1913 and 1928 by 48·9 per cent and that of the Dominions by 33 per cent while that of India increased by 66 per cent.* Even when the subsequent reduction in the military expenditure of India referred to above is taken into account, the percentage of increase compared to 1913 still remains very high—about 55 per cent. The real burden of the increase would become particularly evident if we considered the catastrophic fall in the prices that has taken place during the last 5 years.

It may, of course, be pointed out that the *per capita* expenditure on the army in India is only 2s. 7d., or including the Indian States, 3s. 4d. as against £8 in Great Britain. When related to the national incomes of the countries concerned† namely, £100 per head in Great Britain and Rs. 107 per head in India, the incidence of military expenditure comes to only 2½ per cent of the *per capita* income in India. These calculations have been made by Sir Walter Layton ; but he at the same time takes care to point out that whereas in Great Britain, the expenditure on education per head is £2 15s, the corresponding figure in India is only 9d. The total expenditure on education

*See Report of the Indian Statutory Commission, Vol. II, pp. 215-18. Since then the British expenditure has gone up and it is today 100 p.c. more than what it was in 1913, if not more.

†*Ibid*, Vol. II, Part VIII.

tion in all the Provinces taken together was only about Rs. 13 crores in 1929-30 and since then there has been but little improvement. The position will regard to other national services is exactly similar, so that both absolutely and relatively, India's military expenditure is very high.

I have seen in an official pamphlet a remark that the proportion of military expenditure to total expenditure in India is lower today than it was in 1913 or 1914. During this period it is pointed out the percentage fell from 34 in 1914 to 26 in 1934* on the basis of the net expenditure of the Central and Provincial Governments taken together. The following is the method of calculation :—

	1914	1933-34
Net Revenues	Rs. 87 crores	Rs. 174 crores
Expenditure on Defence	" 29 "	" 44½ "
Civil Expenditure	" 58 "	" 129½ "

Variations (1914-1933).

Net revenues increased	...	100 per cent
Expenditure on Defence increased	53	"
Civil Expenditure increased	...	123 "

Proportion of expenditure to net revenues

	1914	1933-34
Expenditure on Defence	34 per cent	26 per cent
Civil Expenditure	66 "	74 "

Now, what do these figures suggest? Since 1914, the strength of the army in India has been reduced by 25 per cent, but we find that expenditure has gone up by 53 per cent. So far as the fall in the ratio of the defence expenditure to the net revenues is concerned, bearing in mind the reduction in the strength of the army the fall is more apparent than real, because the troops now cost more than they used to in 1914. Even if we regard the position as better than in 1914, we are still far from what we might consider as the "optimum" budget for India. For example, the figures do not yet prove that the expenditure *per capita* on defence bears the same relation to the expenditure *per capita* on such heads, for example, as education, health, sanitation etc., as it bears in other countries to similar heads of expenditure. That was indeed the point in Sir Walter Layton's comparison referred to in the preceding paragraph.

*See "*Some Facts and Figures about Indian Defence*", p. 21. The present strength of the army is also less than that of 1914.

A perfect equation of the Indian financial system or standard expenditure with that prevalent in the progressive countries of the West cannot, of course, be looked for in the present circumstances. Our own poverty would be the most concrete argument against such an attempt. The total net expenditure of the Government, Central and Provincial, in this country comes up to Rs. 6-8 *per capita* in British India, about a sixth of what Britain spends on education alone. So even if we spent the whole of 175 crores on education alone, Britain would still be spending six times as much. Naturally, a real improvement in the economic situation of India is to be looked for only in an increase in the national income of our country, not in any possible reduction of the military budget that we can imagine. In the meantime, the Government of India have got to recognize that such heads of expenditure as would help to increase the national income directly or indirectly should have a better claim on the Finance Department than the demands of the Army Department. This would, no doubt, seem a heresy to His Excellency the Commander-in-Chief, and so I should immediately qualify my statement by saying that nothing should be done as would impair the efficiency of the army as a fighting proposition and of this the Army Department should naturally be the sole judge. But subject to this qualification, it can be stated, as I shall prove presently, that even in the present Army Budget of Rs. 45 crores, there is room for economy, or even a possibility of going back to the pre-War budget figure. In fact, no *a priori* sanctity attaches to any particular budget figure; we have seen the Defence expenditure reach the figure of 29 crores, shoot up to 68 crores, drop down again to 45 crores. The Department will have as little justification for saying that they cannot reduce the figure of Rs. 45 crores to any smaller level than they would have had for regarding the figure of Rs. 68 crores in 1922-23 as sacrosanct. And they have themselves admitted that "the ordeal of retrenchment has so far been survived without serious damage to the efficiency of the defence forces."*

The main point, however, is to approach the problem from an unbiased angle. Let us accept the proposition of the Army Department that the maximum retrenchment has been achieved in the existing conditions, A good deal is, of course, assumed in the

*See " *me Facts and Figures about Indian Defence*," p. 38.

existing conditions. A good deal is, of course, assumed in the phrase "existing conditions." The two important assumptions that are implied in this phrase are, first, that the existing strength of the army cannot be maintained without a budget stabilised between Rs. 50 to Rs. 55 crores and that it would be possible, secondly, to maintain the present balance between the fighting services and the administrative and ancillary services at a lower figure than at least the present expenditure. Want of knowledge and experience often make the ignorant hyper-critical. It is, for instance, little known to many of those who criticise the army budget that the present strength of the army is less than what it was in 1914, though the expenditure is now about 53 per cent higher compared to the pre-War year. There has been a reduction of 20,000 British Officers and fighting troops on the Indian establishment during the 20 years since 1914; and there has been a large reduction in other ranks also as the following figures will show :

<i>Units</i>		<i>1914</i>	<i>1934</i>
Cavalry Regiment	... ..	48	26
Infantry Battalions	... ..	141	143 (active)
Artillery Batteries of all kinds	... ..	102	78½
Engineer Companies or Troops	... ..	23	29
Signal Units	... ..	5	13
Pioneer Battalions	... ..	12	<i>Nil</i>
Armoured Cars and light Tank Companies	<i>Nil</i>	8	
<i>Total Fighting Strength</i>		2,38,000	1,79,000

Thus not only has there been a reduction of 20,000 British Officers and fighting troops but there has been a reduction of 59,000 in the total fighting strength of the army. The question then may naturally arise as to how is it that in spite of this heavy reduction of about 25 per cent in the strength of the army, the expenditure has gone up by about 53 per cent. The reason is that the cost per unit of the fighting troops as well as that of administrative and ancillary services has gone up phenomenally since the war. Thus during the 20 years 1914-1934, the cost of the fighting services has gone up by 50 p. c., that of stores by more than 100 p. c. This increase has been due to the provision for better equipment of the army to keep pace with modern technique and methods of warfare, in the shape of better staffs, better arms and ammunition and the institution of such services as the Signal Units and mechanized transport.

Then there is another aspect of the question. The whole

of the expenditure, for instance, of Rs. 44.91 crores in 1935-36, does not represent the real cost of the army. For the purpose of calculating the real cost of the army we must exclude from the above figure the following items :

Air and Naval Defence	Rs. 2.52 crores
Cost of pensions including War pensions etc.	„ 8.00 „
Return to the exchequer in the form of income-tax, customs duty and other taxes	„ .95 „
Railway Transport charges	„ 1.00 „
Post and Telegraphs	„ .15 „
Printing and Stationery	„ .13 „
Territorial Force	„ .22 „
Cost of certain military schools	„ .11 „
<hr/>	
Total Rs.	13.08 „

Subtracting this sum from the total Army Budget, we are left with the figure of Rs. 32 crores as the present real cost of the army. Of this again, the fighting portion of the army costs only Rs. 22 crores.

Here we come face to face with a dilemma. If we are to retrench, we will have to fix our attention on this sum of Rs. 32 crores. Of this Rs. 10 crores represent approximately the cost of the administrative and ancillary services. The Army Department state that no further retrenchment is possible, without impairing the essential balance between the fighting troops and the ancillary services. So far as the strength of the army is concerned, here also we must be guided by the views of the army authorities, and their view certainly is that the present strength of the army cannot be reduced any further. What will a lay critic—even the Finance Department—do in the face of such weighty expression of views ?

The answer is clear. Even if one accepts the views of the military authorities either in respect of the military services or of the fighting strength of the army, there are still three ways open to us by which a substantial economy in the army expenditure can be brought about.

In the first place, since the defence of India is partly an Imperial concern, we can legitimately ask Great Britain to bear a share of its cost. Secondly, the Indianization of the army will result in a substantial saving. Thirdly, we can replace at least the Internal Security troops by cheaper fighting units.

So far as the purpose for which the army in India is maintained

is concerned, there is no doubt that the purpose of the army is to a great extent Imperial. It is now a commonplace formula that the purpose of the army in India is "the defence of India against external aggression and the maintenance of internal peace and tranquillity". So far as the defence of India against external aggression is concerned, the view has been repeatedly expressed that "the protection of the frontiers of India, at any rate for a long time to come, should not be regarded as a function of the Indian Government in relation to an Indian legislature but as a matter of supreme concern to the whole Empire which can only be effectively organized and controlled by an Imperial agency." This was the observation made by the Simon Commission and we need not cite other authorities in support of what is now a well recognized fact. The Field Army with a strength of 69,000 is clearly and exclusively meant for the defence of the Empire in the East; for as the official publication (*Some Facts and Figures about Indian Defence* issued under the authority of the Army Secretary) makes no secret, "the focus of world unrest has shifted eastwards, and even further eastwards, since the Great War and the Army in India at present occupies the front line of resistance to any threat to the Empire as a whole."

As regards the question of maintaining such a large army of a strength of 70,000 for the preservation of internal peace and security, we might refer to the opinion of the Indian Central Committee sitting with the Simon Commission that the problem of suppressing rebellions and local disorders has been greatly simplified by the advent of the aeroplane and armoured cars. Besides, the question should be seriously investigated if it is not possible to replace the Internal Security Troops by a cheaper form of organization, even though it be a little less efficient as, for instance, the Dominions have done, or by raising local militias to supplement the work of the armed police as well as the ordinary police. Secondly, by replacing British soldiers by Indian soldiers, a substantial reduction in cost may be brought about.

A few words may be said on the question of cost. So far as the fighting units are concerned, the total cost comes to Rs. 22 crores of which Rs. 13 crores represent the cost of the British units. The cost of a British soldier is Rs. 850 a year including pay and allowances while that of the Indian Sepoy is only Rs. 285 or nearly

a third of that of a British soldier. The differences in the case of the officers are not so marked. Officers holding the King's Commission get the same pay whatever be the nationality, though officers trained at the Indian Military Academy would get lower rates of pay. The full effects of this reduction are yet to be experienced before any calculation can be made. It has, however, been estimated that if the entire British personnel could be replaced by Indian personnel not only in the British units but also in the Indian units, the savings would amount to Rs. 9 crores a year. This, together with other incidental savings and economy in other directions—for example, the abolition of the Indian Medical Service which is an entirely superfluous and excessively costly organization as it stands—would bring up the savings to more than Rs. 10 crores. The cessation of the War pensions will sooner or later relieve the budget of three to four crores of rupees every year. Of course it would not be possible to replace the entire British personnel of the army by Indian officers and other ranks, either immediately, or even remotely, if the Imperial aspect is kept in view. If half the personnel is Indianized, the savings would amount to at least Rs. 4 crores. This estimate is based upon the following figures. According to the current Defence Estimates, the cost of an Indian Cavalry Regiment is about Rs. 7'07 lakhs, and that of an Infantry battalion Rs. 6'5 lakhs. The five British Cavalry Regiments cost Rs. 77'55 lakhs while the same number of Indian Cavalry Regiments cost Rs. 35'35 lakhs. If, therefore, the British Regiments are completely replaced by Indian Regiments, the savings would be Rs. 42'20 lakhs. Again, the 45 British Infantry Battalions would cost about Rs. 7'48 crores while the same number of Indian Infantry Battalions would cost about Rs. 2'94 crores. The complete substitution of British Battalions by Indian Battalions would, therefore, result in a saving of Rs. 4'54 crores. The total savings due to the replacement of British Cavalry Regiments as well as Infantry Battalions would, therefore, be Rs. 8½ crores. If corresponding savings could be similarly secured in other units of the army, the total savings would amount to Rs. 9 crores. Half of this is Rs. 4½ crores.

Now, the proposals that I have already made would work out something like this. Let the Internal Security Troops be reduced to four Indian Cavalry Regiments, four British Infantry

Battalions ; so far as the Field Army is concerned, let us, instead of demanding that its entire cost should devolve on the Imperial exchequer, agree, as a practical proposition, to bear at least half its cost ; also, instead of asking Great Britain to bear a share of the cost of the Covering Troops, let us agree that India should bear the whole cost of the troops as they are, perhaps, releasing a part of it for internal security purposes. In other words, let the future strength of the Indian Army is so far as its cost will fall on the Indian revenues be composed as follows :

Cavalry	...	17	(all Indian)
Infantry Battalions	...	82	(all Indian)
Artillery Batteries	...	42	
Engineer Companies	...	22	
Armoured Car Companies	...	2	
R. A. F. Squadrons	...	4	

From calculations made, it would appear that the total savings would come up to about Rs. 12½ crores. There would be a saving of another Rs. 5 crores in the Administrative and other Services (excluding the savings due to the abolition of the Indian Medical Service). In fact, the proposals made above, modest as they are, would mean a total saving of Rs. 18 crores which, if effected, would bring down the Army Budget to Rs. 27 crores, and with the cessation of the War pensions, the Budget would be easily brought down to Rs. 25 crores without any loss whatever in the fighting efficiency of the army. In a total Budget of Rs. 175 crores, Central and Provincial, this would represent about 14·3 per cent of the total revenues. This, then, is the way out.

To ask Great Britain to bear, instead of half of the cost of the Field Army, as proposed above, the whole of it would neither be fantastic nor unprecedented. In this connection, we cannot do better than close our arguments by referring to a remarkable speech delivered by Sir Sivaswamy Iyer in the Legislative Assembly on February 18, 1924. Sir Sivaswamy is one of the few non-official "experts" in this country who can speak with considerable authority on the army question. Says he :

"But with regard to the problem of the army, I have only to observe this, that so far as my reading of colonial history goes, none of the colonies was in a position to assume its defence at the time when a self-governing status was granted to it. For many years, the colonies were not even able to pay for their defence. It was the Home Government that had to contribute towards the

military expenditure of the colonies. We, on the other hand, have from the beginning paid for our army. We have not merely paid for our army but we have raised our troops. We have raised and maintained our Indian troops and we have also maintained the British troops and paid for them. We have gone further than the colonies have done in the matter of undertaking our defence. No doubt Sir Malcolm Hailey is right in saying that full dominion self-government implies the capacity to undertake the defence, not merely by paying for it but also by undertaking its officering and administration. But that was not a condition which was insisted upon in the case of any of the colonies. So far as defence against internal disturbances was concerned, that no doubt was a condition which was pointed out to the colonies as essential some years after they were granted their self-governing status. But so far as defence against external aggression was concerned, I am not aware that the duty has been laid upon them even now. As regards naval defence, the obligation has not been laid upon them."

§ 4

NATIONAL EXPENDITURE (PROVINCES).

In order to arrive at a correct estimate of the national expenditure of India, it would be necessary to treat India as a whole and to include in the term "National Expenditure" the expenditure at the Centre as well as in the Provinces. Taken by itself Central Expenditure would give us an entirely wrong idea of the expenditure out of public funds on the social services. Such expenditure is mainly charged to the provinces so that in order to get an accurate estimate of the real nature of public expenditure in India we must include the Provincial Budgets along with the Central Budget in the Indian scheme of public expenditure. In the following table, the growth of public revenues both Central and Provincial, is presented as a whole in crores of rupees :

TABLE

Year	Central Revenues	Provincial Revenues	Total
1921-22	74.89	70.43	145.52
1922-23	83.91	75.74	159.65
1923-24	89.20	78.85	168.05
1924-25	94.64	81.28	175.92
1925-26	91.83	87.51	179.34
1926-27	90.22	86.43	176.65
1927-28	82.95	93.29	176.24
1928-29	85.43	91.49	176.92
1939-40	82.15	74.92	157.07

As regards the growth of public expenditure, both central and provincial, the following table will reveal the position :

TABLE

Year	Central Expenditure	Provincial Expenditure	Total
1921-22	102.54	79.16	181.70
1922-23	98.93	77.23	176.16
1923-24	86.81	76.09	162.90
1924-25	88.96	78.41	167.37
1925-26	88.52	85.89	174.41
1926-27	87.26	90.17	177.43
1927-28	85.16	91.50	176.66
1928-29	86.49	92.91	179.40
1939-40	82.65	76.73	159.38

The picture as revealed above is not very happy. Confining our attention for the time being to the Governors' provinces (excepting N. W. F. P. and Burma) we find that the gross provincial revenues increased from 42,68 lakhs in 1912-13 to Rs. 70,52 lakhs in 1921-22 or by 65.3 per cent during the period. In 1930-31 the provincial revenues amounted to Rs. 75.25 lakhs, so that compared to 1921-22, the increase was little over 6 per cent. The revenues were, however, not equally distributed among the different provinces. Thus, Mr. Layton calculated in 1927-28 that Bombay had a revenue of Rs. 7.240 per head of the population, the Punjab Rs. 5.828, Madras Rs. 4.017, Central Provinces Rs. 3.881, Assam Rs. 3.543, United Provinces Rs. 2.833, Bengal Rs. 2.315 and Bihar and Orissa Rs. 1.684. In other words, the richest province from the revenue point of view has an income which is four and a half times as much as the income of the poorest province. This discrepancy in the revenue position is reflected in the expenditure per head of the population in the different provinces. Within the limits of such expenditure, poor as they were, the cost of the nation-building services had to be found.

The table given overleaf, also prepared by Mr Layton, will show the position in 1929-30.

TABLE *
Expenditure per head of population according to 1929-30 Budget estimates (in rupees.)

	Bombay	Punjab	Madras	Assam	Central Provinces	United Provinces	Bengal	Bihar and Orissa
Education	1·057	·806	·608	·421	·410	·421	·285	·262
Medical and Public Health ...	·472	·391	·333	·289	·158	·145	·210	·153
Land Revenue and General Administration ...	1·528	·758	·657	·658	·741	·522	·398	·300
Law and Order	1·446	1·106	·790	·618	·763	·628	·784	·432
Civil Works	·674	·802	·504	·092	·626	·108	·180	·156
Miscellaneous	3·114	1·686	1·296	1·842	1·094	·905	·697	·497
Total ...	8·291	5·549	4·188	3·920	3·792	2·254	2·729	1·800
Density of Population per square mile	156·1	207·4	207·3	143·4	139·1	427·1	608·1	409·1

* Report of the Indian Statutory Commission, (1930), Vol. II, Part VIII.

These figures have been somewhat improved as the result of the Niemeyer Award as the following table will show :

TABLE

Expenditure per head of population.

Province	Rs.
Bombay	8·277
Punjab	5·258
C. P. & Berar	4·229
Madras	3·690
Assam	3·679
U. P.	2·513
Bengal	2·372
Bihar and Orissa	1·766

It is hardly possible within the limits of these resources to finance any big scheme of national expenditure.

The position can be improved in three ways ; either by augmenting the sources of revenue, or by cutting down unnecessary expenditure, or by both. So far as the first method is concerned, there has been an increasing disposition on the part of the different provinces to make use of the powers of taxation given to them by the Government of India Act, 1935. Thus, most of the provinces have taken recourse either to the sales tax or to the tax on professions, trades, callings and employments. It is also expected that with an increasing allocation under income tax and other funds by the Government of India in terms of the Government of India Act, the revenue position of the provinces would be further improved. This, however, depends largely on the prosperity of the Railways and of central revenues. If, however, the proposals made in the preceding section regarding the expenditure on defence are accepted—I recognize that this is a big 'if' but successful planning of expenditure in terms of a national economy policy requires the fulfilment of such 'ifs'—the Central Government will immediately be in a position to make over a sum of Rs. 20 crores to the provinces for expenditure on nation building services every year. It is also well known that for a country like India the cost of the Civil Administration is inordinately high. I have already quoted the remark of Sir Stanley Reed who has described the costly nature of the Indian administration as "a Rolls-Royce administration in a country of dog carts," As in the case of the Army so also in the case of

the Civil Administration, there is considerable room for savings. It is not possible to make an exact estimate of the savings that may be possible without a sifting enquiry into the working of all the departments. In 1922 the Inchcape Committee had recommended a curtailment of expenditure amounting to about 18 crores of rupees, a great part of which has not yet been implemented. Actually the expenditure, as already noticed, has gone up since that year both at the Centre and in the Provinces in spite of the fact that the national income has gone down during the period even when it is corrected by the fall in the general price level.

Turning to the provinces, there has never been any systematic attempt to rationalize public expenditure with a view to eliminating all items of wasteful or unproductive expenditure. It is well known how the post-War prosperity was immediately counter-balanced in some provinces by a big increase in the salary rates. This has been particularly evident in Bengal where the revision of the salary rates more than counter-balanced the increased spending power which the Meston Committee had estimated that province would receive under the new financial settlement. One consequence of this was that in point of expenditure on the transferred services Bengal compared very unfavourably with that of the other major provinces. Thus, during the years 1922-23 and 1929-30, the expenditure on transferred services increased by 86 per cent in Madras, 82 per cent in the Punjab, 30 per cent in the United Provinces, 25 per cent in Bombay and only 14 per cent in Bengal.* During the same period Madras increased her expenditure on Education by 82 per cent and that on Medical Relief and Public Health by 115 per cent, the Punjab by 78 per cent and 94 per cent respectively, the United Provinces by 47 and 67 per cent, Bombay by 23 and 43 per cent while Bengal increased her expenditure by only 21 and 24 per cent respectively. No doubt, Bengal has since then made gallant attempts to cut down her expenditure. But this has never been done on a systematic and comprehensive basis. It must, however, be made clear that economy does not always mean retrenchment. Economy applied to public expenditure means a wise husbanding of resources so that, as Mr. Manu Subedar stated in a recent speech at the Patna University, one rupee can do the work of five rupees. He pointed out that high salaries did not

*Report of the *Indian Statutory Commission*, (1930), Vol. II, p. 234.

always mean high efficiency. It may further be added that the pathetic faith in the omniscience of foreign experts should be replaced by a healthy confidence in the abilities of our own countrymen.

§ 5

PUBLIC DEBT.

It is not my intention to attempt any ambitious analysis of the Public Debt of India. Other and more capable authorities have done this before, and have, in addition, tried to apportion that part of the debt which should properly belong to India, the remainder being chargeable to the Imperial Government. Thus Professor K. T. Shah calculated that of all the interest-bearing obligations of the Government of India amounting to Rs. 1,212 crores in 1921-22 a sum of Rs. 825 crores should be legitimately charged to the Imperial Government leaving the real obligations of India at Rs. 387 crores. It may be remembered that the Committee on Financial Obligations appointed by the Indian National Congress in 1931 arrived at a similar figure in their estimate of the legitimate obligations of India. As regards the debts of the East India Company charged to the Government of India, Mr. James Wilson, Finance Member of the Government of India estimated the legacy at £ 97'85 millions in 1858. This figure, however, did not include certain other items which India had to pay and for which credit should have been taken at the time when the adjustments were made. The net result would have been, if these adjustments had been made, that the year 1858 would have closed with a credit balance for India amounting to £ 27'5 millions as against a debit balance estimated by Mr. James Wilson amounting to £ 97'85 millions! Without going into the details of these figures one can certainly suggest that there is a *prima facie* case for a thorough, impartial and authoritative revision of the burden of India's public debt. Any loans or liabilities that have been incurred in Indian interests must be honoured by this country; but this figure can be obtained only after a careful adjustment of claims and counter-claims which can only be done by a competent but independent committee acting in a quasi-judicial capacity.

What I am concerned with in this section is the fact that having regard to the insufficiency of the revenues both at the Centre and in the Provinces a part of the increased expenditure that planning

contemplates must be found by borrowing. An adjustment of India's public debts would facilitate such borrowing operations. Planning implies a very much accelerated pace of development which the normal growth of revenue can hardly be expected to provide for. Most of the borrowings that the planning authorities will have to recommend will be for productive purposes. In other words, such borrowings would automatically create the assets out of which the repayment of the loans would be possible. The revenues would of course have to bear the burden of paying the interest charges. Loans would be required for financing rural development, agricultural improvement, power installation, development of communications, extension of irrigation and a host of other developmental schemes that must form a fundamental part of any scheme of economic reconstruction. Some of the loans might not be directly productive, as for instance, loans raised to finance primary education or the repayment of accumulated or ancestral debts by the cultivators. But even then such loans undoubtedly help to increase the productive capacity of the nation in an indirect manner.

So far as the expenditure of a recurrent nature on the unproductive but nation-building services is concerned, the principle of meeting the cost of such services out of current revenues should be generally followed. Thus, I have estimated in an earlier chapter* that the total cost of introducing free and compulsory primary education in British India is likely to approximate to Rs. 30 crores. It should be possible to meet this cost partly by retrenchment of existing expenditure in order to release the funds for financing the introduction of primary education and partly by increased taxation. So far as retrenchment of expenditure is concerned I have already made calculations to show that a substantial reduction is possible in military expenditure. The same is true of civil expenditure if a general revision of the scales of salary is undertaken immediately, though it will be some years before the full effects of such savings become apparent. I have already argued elsewhere that the aim of the planning authority should be to bring about immediately an increase in public expenditure by 50 per cent. In 1939-40, public expenditure, Central as well as Provincial, amounted to about Rs. 160 crores (net). As increase of 50 per cent on this expenditure means that we should have to find an additional sum of Rs. 80 crores. Actually, there

*See *ante*, Chapter XVI, § 2.

would be a substantial reduction in the present expenditure of Rs. 160 crores if the cost of the Indian administration including military expenditure were reduced on the lines suggested above. The reduction in expenditure would partly, if not wholly, be swallowed up in the service of loans to be raised for financing the schemes of national development approved by the planning authorities. Assuming, then, that the total public expenditure is increased to Rs. 240 crores, it should be the duty of the planning authority to find the ways and means for raising this extra sum of Rs. 80 crores. This sum should have to be raised by increased taxation. It may be recalled that the expenditure of the Government of India alone increased by about Rs. 55 crores during the period 1914-18. It can also be noted that while increasing recourse to excise duties and revision of the income tax schedule would put the Central Government in possession of additional funds, the provinces would benefit by an increased allocation under income tax while the additional sources of revenue granted to the provinces under the Act of 1935 might further help them to augment their revenues in order to provide for an increased expenditure.

As regards the amount of the loan that would be necessary to raise in order to finance the developmental projects of the Economic Plan, it has already been pointed out that the reconstruction of the village alone would require assistance to the extent of at least Rs. 700 crores. It would not be necessary to raise this loan all at once. It might be raised at the rate of a certain proportion every year spread over, say, a period of ten years. It would have to be a long-dated loan. The other loans which would be of a smaller amount might have a shorter currency but in any case, a currency of not less than 20 years, so that the service of the loans might not involve a heavy burden on the annual revenues.

The amount of the loans to be raised suggested in the paragraphs above would seem to be prohibitive to many. A loan of Rs. 700 crores is indeed a colossal burden. But the task is also colossal. I have already mentioned that other countries have not hesitated to borrow huge sums of money for national reconstruction. No figure should indeed be regarded as prohibitive if arrangements could be made for the service of the loans out of current revenue. Debt, we must remember, is but one side of a transaction of

which credit is the other. If India has credit, she need not be afraid of raising large loans for the financing of a programme of reconstruction. It is quite possible that all the money required might not be raised in India. While every effort should be made to raise the money within the country, there is no harm in tapping foreign markets or seeking the financial assistance of foreign countries provided it is not given or sought at too exorbitant a price. In fact, if a proper re-adjustment of Indian external debts is made as a result of an impartial enquiry, it is quite likely that a loan of Rs. 700 crores would not involve any additional burden on the finances of India over the burden to which she is at present already subject.

CHAPTER XXIX

EDUCATIONAL RECONSTRUCTION

§ 1

LITERACY IN INDIA.

This volume has so far been concerned with what may be termed the material aspects of planning. In a previous chapter a brief reference has no doubt been made to the "moral aspect" of planning.* It was indicated in that chapter that both the initiation and the execution of the plan depend upon the moral support of the people. This involves the education of the public because without knowledge the moral support of the people will lack its real basis. Knowledge is Power. It is with knowledge that man transforms Nature, red in tooth and claw, into his faithful servant and ally. Planning requires the harnessing of the forces of Nature to man's use, but nature has no remorse and strikes down the man who is powerless because of his ignorance. In fact, the first problem that must be faced in any effort at national reconstruction is the problem of removing the dead-weight of ignorance that crushes the spirit of progress.

The vast illiteracy of India is a common stock-in-trade with Indian economists and politicians. Repetition of well-known facts often blunts their edge and the huge illiteracy of the Indian masses is accepted as an inescapable *Kismet*. The most dangerous part of the situation is the spirit of complacency with which this state of things is tolerated. One seems as if one is almost reconciled with the situation. Nothing can be more prejudicial to the urge for progress than this spirit of helpless fatalism.

*Chapter IV, § 5.

The Census of India (1931) tells us that of the total population aged 5 years and over, about 9·5 per cent are literate, that is, about 95 out of a 1000 can somehow write a letter and read the answer to it. This percentage is a slight improvement over the figures of 1921 when literacy was only 8·2 per cent. The following table gives the percentage figures of literacy for each province :

TABLE
No. per mille who are literate (aged 5 and over)

Province.	Persons.	Males.	Females.
Assam	93	156	22
Bengal	111	182	33
Bihar & Orissa	53	98	8
Bombay, including Sind	108	176	31
C. P. & Berar	66	121	12
Madras	108	188	30
N. W. F. P.	49	80	12
Punjab	63	100	17
United Provinces	55	94	11

The above figures refer only to British Indian Provinces. The highest percentage of literacy has not, however, been found in a British Indian Province. It is the state of Cochin which shows the highest percentage of literacy, being 460 per mille for males and 220 per mille for females. The state of Travancore comes very near to Cochin with 408 per mille for males and 168 per mille for females. Burma is at present separated from India, for which reason we have not included the figures for that country in the above table. But in 1931, Burma was part of India, and she had, in fact, the distinction of having had the highest percentage of literates in all India, with 560 per mille (males) and 165 (females). The distinction, however, is a relative one. Judging by the standard of literacy obtaining in the Western countries, even Burma should be reckoned as a backward country, not to speak of the other Provinces of British India.

The above figures refer only to literacy. If we turn to literacy in English, we find that the figure for all India is 2·12 per cent for males (aged 5 and over) and ·28 for females. Amongst the Hindus, the literacy in English is 2·04 per cent among males and ·16 among females the corresponding figures for the Muslims being 1·64 males and ·11 females.

The figures relating to literacy in English are important from

two points of view. It is the Indians educated in English who have been the leaders of the progressive movement in India in different directions. It is, again, these classes who have been responsible for laying the cultural foundation of Indian unity. Whatever success the recent movement for establishing a national language for India may achieve in the near future, it is evident that for a long time to come it is the people who have received their education in English and have had access to western thought and culture who will continue to interpret India to the rest of the world and bring back the message of progress and advancement to the ignorant masses of India. The cultural backwardness of India and the insignificant literacy in English are perhaps integral facts without ourselves being conscious of it in an adequate degree.

§ 2

HISTORY OF EDUCATION IN INDIA.

The subject of education may be discussed with reference to the three well-known stages of education, namely, primary, secondary and University education. Where such a large percentage of the people are illiterate as in India, the question of education resolves itself, further, into the education of the child and the education of the literate adult. Before, however, we discuss these three stages of education separately, it may be convenient to stop for a while for a brief history of education in this country.

In the ancient times up to the advent of the British in this country, we have indisputable evidence of the wide prevalence of education and culture in India. In the Vedic period we had instances of Hindu women discoursing on the highest systems of thought and philosophy and religion. Up to the nineteenth century, however, the traditions of education received a setback, partly on account of the political insecurity that prevailed in the country and partly on account of the conflict of cultures. The beginning of that century found education at a very low ebb. There were hardly any printed books, either in the classical languages or in the current languages of India, and western education had not yet been introduced. There were village schools which were self-supporting but conducting an inadequate system of teaching and unable in any case to cope with more than a fraction of the vast child population. Education for girls was yet to be

taken in hand. British efforts for the re-organization of the educational system began at Calcutta. Warren Hastings had purchased a site for a Mahomedan college in 1781 and assisted Sir William Jones to found the Asiatic Society of Bengal. A Sanskrit College was established in 1792 at Benares. A clause was inserted in the Charter Act of 1813 which provided that the Governor-General-in-Council should set apart "a sum of not less than one lac of rupees in each year" for the encouragement of education in British India. This was followed by the famous controversy about the medium through which the education was to be imparted. There were two schools of thought on the subject. One school, called the Orientalists, threw their weight in favour of classical education through the medium of the Indian languages; the other school, known as the Anglicists, urged the introduction of Western culture to be made available through the teaching of English. It was ultimately Lord Macaulay's famous Minute on Education of 1835 that decided the issue in favour of English education. But before the year there had been already forces at work, represented by the great Indian Reformer, Raja Ram Mohun Roy, David Hare and such missionaries of hallowed memory as Alexander Duff, who had already laid the foundation for the introduction of the English system of education. Henceforth, higher education in India was definitely linked with the English language. Sir Charles Wood's Educational Despatch of 1854 added a new chapter; it imposed upon the Government of India the duty of creating a properly articulated system of education from the primary school to the University, and the years following witnessed the establishment of Departments of Public Instruction in all the Provinces and the establishment of the Universities of Calcutta, Madras and Bombay. With the passing of the Government of India Act in 1919, the responsibility for promoting education in the Provinces was transferred to popular Ministers responsible to a largely elected legislature. The Government of India have, however, continued to exercise their influence on the educational ideas of the country. Though their share of responsibility for meeting the educational needs of the country is no longer direct, they have by indirect means assisted the efforts of the Provinces for educational advancement, that is to say, by a system of grants to schools and universities, by promoting research and by encouraging consultations among the Provincial Governments on matters

of educational policy. The establishment of the Inter-Universities Board of Education, for instance, has provided a universal clearing house for the ideas and experiences of the different Provinces.

It has been remarked in the preceding paragraph that the Act of 1813 had a clause under which the Governor-General-in-Council was asked to set apart a sum of not less than one lakh of rupees in each year for the encouragement of education in British India. A century later, we find the total expenditure on primary education alone to be Rs. 2'07 crores per annum. In 1927, the figure increased to Rs. 6'95 crores. Though the size of this expenditure may at first glance seem to be quite large, and the rate of progress quite rapid, from the comparative point of view the progress achieved is still hopelessly insufficient. In 1927, the total expenditure on primary education worked out at Rs. 6 per year per head of the school-going population of British India. The total expenditure on recognized institutions from Government funds came up to Rs. 13,18,10,145 in 1928-29 out of a total expenditure from all sources of Rs. 27,07,32,253.

§ 3

PRIMARY EDUCATION.

From the national point of view, the most important stage of education is the primary stage. The subject has already been discussed in relation to village re-organization. In this section, the problem will be discussed in its broader aspects, as part of a national scheme of education. We have already seen that in almost all advanced countries their Governments have laid great stress on primary and secondary education, most of them making such education compulsory. Again, in most of the countries, the scheme of education is related to the question of employment, particularly of a vocational type. Turning now to the conditions of India, we find that according to the Census of 1931 there were 24 million boys between the ages of 5 and 10. In the same year the total number of pupils in the primary classes of the boys' schools was 7 millions, so that about one-third of the boys who ought to have attended the primary schools were actually doing so. Even those that have been receiving education have not all been able to retain its benefits. One of the most distressing features of primary education in India is the large wastage and stagnation that occurs in the higher classes of the primary stage. The following figures taken from the Report of the Hartog

Committee of 1921 will illustrate the tremendous wastage that occurs as the lower stages are passed for the higher classes of the primary schools. Thus, of the 3,453,046 persons who entered class I in schools of British India in 1922-23 only 655,101 reached class IV in 1925-26. In the case of girls, the corresponding figures which were 533,878 in class I and 55,704 in class IV show an even more conspicuous waste of money and effort. For British India as a whole, taking boys and girls together, out of every 100 pupils who were in class I in 1922-23, only 19 were able to reach class IV in 1925-26. In 1928-29 there were in British India 171,386 primary schools for boys and 30,302 for girls. The total number of boys receiving education in these schools was 7,88,619 and the total number of girls, 1,132,972.

It is to be noted that all the Provinces do not record the same rate or degree of progress. In some of the Provinces, for example, the point of saturation has been reached. This is the case in Madras, Bombay, Bengal and the United Provinces. In the other Provinces only a small percentage of the children of school-going age are actually attending the school. In the figures that have been quoted above, we have taken the age group 5 to 10 because that is the age within which the primary stage of education is completed. If we took a higher age limit than 10, as we should do from the precedence set up by other countries, the percentage of pupils receiving education would be still lower. There have recently been some attempts in one or two Provinces to make primary education compulsory and free. But the extent of compulsion is limited and the age limit aimed at is low. One of the results of a low age limit is that the education is largely wasted. Even a child who has passed through all the four or five classes of the primary school relapses into illiteracy within a few years of his passing out. The want of continuation schools or compulsory vocational classes contributes to this tendency of a relapse to illiteracy. The large percentage of the pupils who attend the lowermost classes of the primary schools is due to the fact that, as the Royal Commission on Indian Agriculture remarked, the parent too often regards the primary school as a *creche*. The reason why there are so few pupils at the top is that as soon as the child attains an age sufficient for him to be utilised in the fields or in the factories, he is taken away from the school. The Commission rightly observed that "The progressive adoption

of the compulsory system is the only means by which may be overcome the unwillingness of parents to send their children to school and to keep them there till literacy is attained." The provision of sufficiently trained teachers must, of course, precede the enforcement of compulsory school attendance. It will not be an exaggeration to say that in many cases, as matters stand now, the teachers themselves require teaching. Of course, it is no use blaming the teachers, for at the wages that are offered to them—about Rs. 10/15 on the average—one could not expect a better state of things. If the educational authorities were to attract the right type of men and women for undertaking the very responsible work of educating the children, they must be offered a scale of wages that would suffice to attract the requisite talent for the purpose. This, of course, involves a heavy expenditure for the country as a whole. It is not possible to say how this expenditure can be avoided if the percentage of literacy is to approach anything like the standard attained in the Western countries. We can only say that a good teacher in India could be available at a much less cost than in those countries. To that extent there is the advantage of introducing a comparatively cheaper system of education.

There is another defect to be remedied in devising a well-thought out scheme of primary education. As the Zakir Husain Committee have stated "Modern educational thought is practically unanimous in commending the idea of educating children through some suitable form of productive work. This method is considered to be the most effective approach to the problem of providing an integral all-sided education. Psychologically, it is desirable, because it relieves the child from the tyranny of a purely academic and theoretical instruction against which its active nature is always making a healthy protest. It balances the intellectual and practical limits of experience, and may be made an instrument of educating the body and the mind in co-ordination.....Socially considered, the introduction of such practical productive work in education, to be participated in by all the children of the nation, will tend to break down the existing barriers of prejudice between manual and intellectual workers, harmful alike for both.....Economically considered, carried out intelligently and efficiently, the scheme will increase the productive capacity of all workers and will also enable them to utilise their leisure advantageously. From the strictly

educational point of view, greater concreteness and reality can be given to the knowledge acquired by children by making some significant craft the basis of education." The Zakir Husain report would be discussed in detail in the next section. Suffice here to say that the Report has drawn attention to an important deficiency of the existing system. It is based on modern educational practice developed after years of research in the advanced countries. Those who have the responsibility of ordering the complete educational scheme for the country will have to take note of the principles on which the Zakir Husain Committee have worked.

§ 4

THE WARDHA SCHEME.

The Zakir Husain Scheme first took shape at the All-India National Education Conference which was held at Navabharat Vidyalaya, Wardha, on the 22nd and 23rd October, 1937, under the presidentship of Mahatma Gandhi on the occasion of the Silver Jubilee celebrations of the Marwari Education Society. It is accordingly referred to as the Wardha Scheme. The basis of the scheme had already been postulated by Mahatma Gandhi in a number of articles published in the *Harijan*. In one such article, Mahatma Gandhi laid down his educational propositions in the following words :—

"(1) Primary education, extending over a period of 7 years or longer, and covering all the subjects up to the matriculation standard except English, plus a vocation used as the vehicle for drawing out the minds of boys and girls in all departments of knowledge, should take the place of what passes today under the name of Primary, Middle and High School Education.

"(2) Such education, taken as a whole, can, must be, self-supporting ; in fact self-support is the acid test of its reality."*

In a previous article Mahatma Gandhi had explained his idea in the following words :—

"Taken as a whole a vocation or vocations are the best medium for the all-round development of a boy or a girl, and therefore all syllabus should be woven round vocational training.

"Primary education thus conceived as a whole is bound to be

**Harijan*, October 2, 1937.

self-supporting even though for the first or even the second year's course it may not be wholly so."*

In the article from which the above quotation has been taken, Gandhiji made it clear that the period of 7 years suggested by him for primary education was not an integral part of his plan, and that it was just possible that more time would be required to reach the intellectual level aimed at by him. It may be noted here that Gandhiji's conception of primary education takes it to the level of the present matriculation less English.† He calls the present scheme of primary education "a snare and a delusion". Before the Wardha Scheme was adumbrated, Gandhiji's scheme of education was known as the "Shegaon Method." An exposition given of the scheme in the *Harijan* of the 4th December, 1937 explains that the method "is the application of the law of non-violence in the training of the child as a prospective citizen of the world". The writer claims to have summed up the method in the beautiful, but rather vague, phrase—"from the hand and the senses to the brain and the heart and from the school to the society and God." Translated in practical terms the method implies the teaching of what is called the "Basic Course" which must include "a good knowledge of the mother-tongue, a vocation, acquaintance with its literature, a working knowledge of the national language of India, a general knowledge of such subjects as mathematics, history, geography, physical and social sciences, drawing, music, drill, sports, gymnastics, etc., as well as of a vocation to a degree which should enable an average student to start a modest career, and a zealous and bright student, if he will, to take up a course of higher general or vocational training." The school must be self-supporting, each pupil earning at least a wage of half an anna per hour for 3 hours' work every day for nine months in the year, the test of the efficiency of a Shegaon school being determined by the fact whether with an average of 25 pupils per class and 8 or 9 members of the staff enjoying a minimum salary of Rs. 20 or Rs. 25 per month it is able to earn the annual salaries of the staff from the products manufactured in the school. For the present, however, the school wages should be guaranteed by the State, the rate of the wages being mainly related to the rates described by the All-India Spinners' Association and the All-India

**Harijan*, September 18, 1937.

†*Harijan*, July 13, 1937.

Village Industries Association. Finally, it is claimed that the principles of the Shegaon Method could be applied, with appropriate changes, also to higher stages of education.

This method was further elaborated by Mahatma Gandhi in the form of a number of propositions which he submitted to the Wardha Conference. The propositions are as follows :—

1. The present system of education does not meet the requirements of the country in any shape or form. English, having been made the medium of instruction in all the higher branches of learning, has created a permanent bar between the highly educated few and the uneducated many. It has prevented knowledge from percolating to the masses. The excessive importance given to English has cast upon the educated class a burden which has maimed them mentally for life and made them strangers in their own land. Absence of vocational training has made the educated class almost unfit for productive work and harmed them physically. Money spent on primary education is a waste of expenditure inasmuch as what little is taught is soon forgotten and has little or no value in terms of the villages or cities. Such advantage as is gained by the existing system of education is not gained by the chief taxpayer, his children getting the least.
2. The course of primary education should be extended at least to seven years and should include the general knowledge gained up to the matriculation standard less English plus a substantial vocation.
3. For the all-round development of boys and girls all training should so far as possible be given through a profit-yielding vocation. In other words, vocations should serve a double purpose—to enable the pupil to pay for his tuition through the products of his labour and at the same time to develop the whole man or woman in him or her through the vocation learnt at school.

Land, buildings and equipment are not intended to be covered by the proceeds of the pupil's labour.

All the processes of cotton, wool and silk, commencing from gathering, cleaning, ginning (in the case of cotton), carding, spinning, sizing, warpmaking, cutting, book binding, cabinet making, toy making, gur-making—are undoubted occupations that can easily be learnt and handled without much capital outlay.

This primary education should equip boys and girls to earn their bread by the State guaranteeing employment in the vocations learnt or by buying their manufactures at prices fixed by the State.

4. Higher education should be left to private enterprise and for meeting national requirements whether in the various industries, technical arts, *belles-lettres* or fine arts.

The State Universities should be purely examining bodies, self-supporting through the fees charged for examinations.

Universities will look after the whole of the field of education and will prepare and approve courses of studies in the various departments of education. No private school should be run without the previous sanction of the respective Universities. University charters should be given liberally to any body of persons of proved worth and integrity, it being always understood that the Universities will not cost the State anything except that it will bear the cost of running a Central Education Department.

The foregoing scheme does not absolve the State from running such seminaries as may be required for supplying State needs.

It is claimed that if the whole scheme is accepted it will solve the question of the greatest concern to the State—the training of its youth, its future makers.*

According to Dr. C. R. Reddy's analysis of the Wardha Scheme (*vide* his Presidential Address to the All-India Educational Conference held in Calcutta in 1939) there are "four big points" in Gandhiji's scheme. "Firstly, that the State should withdraw all support from higher education, including University education, that private corporations should be chartered to carry on University education; and that so far as University education was concerned, the State should not treat it as a social necessity and, therefore, should spare itself the expenses and the care. Secondly, technological studies and applied science should be left to be organized by the trades and industries concerned; they should become the function, as was the case in the early Middle Ages in Europe, of the guilds. Thirdly, primary education should be made compulsory up to the 14th year, and this education should be of a peculiar type, namely, self-supporting. And fourthly, educated men and women should be conscripted to serve as teachers."

The Wardha Conference appointed a Committee under the presidentship of Dr. Zakir Husain. I have already quoted towards the close of the preceding section the psychological, social, economical and educational aspects of the Wardha Scheme as explained by the Committee. The Committee agreed to the main propositions laid down by Gandhiji though they added thereon comments by way of elucidating some of the points that had a chance of causing misunderstanding. The main criticisms have, of course, centred round the idea that the Wardha Scheme should be self-supporting

**Harijan*, October 2, 1937.

in character. The Zakir Husain Committee attempted to clinch the issue by suggesting that even if the scheme were not self-supporting in any sense "it should be accepted as a matter of sound educational policy and as an urgent measure of national reconstruction." They pointed out that modern educational thought is practically unanimous in commending the idea of educating children through some suitable form of productive work and that this method is considered to be the most effective approach to the problem of providing an integral all-sided education. The curriculum is to be spread over seven years as suggested by Gandhiji and would include the following subjects :—

1. The Basic Craft, such as spinning and weaving, carpentry, agriculture, fruit and vegetable growing, leather work or any other craft for which local geographical conditions are favourable and which satisfies the conditions mentioned above.

2. The mother-tongue.

3. Mathematics, including the four simple rules, the four compound rules, fraction, decimals, Rule of Three, use of the unitary method, interest, elements of mensuration, practical geometry and the rudiments of book-keeping.

4. Social studies, including study of world geography in outline, with a fuller knowledge of India and its relations with other lands, together with knowledge of social institutions, public utility services, training in citizenship and study of newspapers preferably brought out by the school community.

5. General science, including Nature Study, botany, zoology, physiology, hygiene, physical culture, chemistry, knowledge of stars, stories of the great scientists and explorers.

6. Drawing.

7. Music.

8. Hindusthani.

The Committee also recommended a course of studies for the training of teachers which forms an important part of the Wardha Scheme. Having regard to the vocational bias of the scheme of education recommended by the Committee it is expected of a teacher that he should have knowledge of the growing, picking and carding of cotton (or wool), spinning of yarn, marking of warp, and also of the mechanics of the spinning wheel, of the economics of village industry and elementary carpentry and he must have training in one of the basic crafts which form the curriculum of the school.

Two further questions remain to be discussed with regard to the Wardha Scheme. One relates to the question of the proper school age and the other to the question of the administration of the system of education as proposed in the scheme.

On the first question, the scheme contemplates the age of entry of a pupil to be seven plus. This has been criticised by many as a rather late age of entry for an elementary school. The Zakir Husain Committee, however, is conscious of the educational importance of the age three to seven of a child. They write :

"We realise that by fixing seven plus as the age for the introduction of compulsory education, we have left out a very important period of the child's life to be shaped in the rather unfavourable surroundings of poor village homes under the care of uneducated and indifferent parents mostly struggling against unbearable circumstances. We feel very strongly the necessity for some organisation of pre-school education conducted or supported by the State for children between the ages of three and seven. A painful consciousness of the realities of the situation, chiefly financial, prevents us from making this recommendation. We are anxious, however, that the State should not overlook its ultimate responsibility in the matter. We are confident that if the scheme of basic education suggested here, with its intimate relation to home life, is firmly established, it will go a long way towards helping the pre-school child to get a better home training than he now does. It will also help considerably in the great work of adult education which will also have to be taken up in right earnest at no distant date."

It will thus be seen that the Zakir Husain Scheme in so far as it does not provide for the *preparation* of the child for the school is to that extent defective and out of tune with modern practice. In fact, the scheme underlines one of the gravest defects of the Indian system, namely, the want of a system of pre-primary education. Much can in this respect be learnt from the English and the American "Nursery School Movement." This movement is a growth of the twentieth century though a near approach to the nursery school idea of the present century could be traced to the early years of the nineteenth century. The efforts of pioneers like Froebel, Julia Lloyd, the Sisters Rachel and Margaret McMillan, Grace Owen, Maria Montessori, Helen Parkhurst and others have not been in vain and though there have been variations in the movement, educationists are now agreed that the nursery school is a "desirable adjunct to the national scheme of education". It is evident that a correct scheme of educational planning must provide for a suitable scheme of education for

children up to the age of seven plus and the new slogan should be —“From Nursery School to University.”* What is required in India is that an association on the lines of the British Nursery School Association consisting of parents, teachers and educationists should be formed to organize the movement and to draw up a plan for the education of the child between the ages of three and fourteen; needless to say, the Wardha Scheme should be assimilated to this plan.

As regards the question of administration, the Zakir Husain Committee assumed the existence of a Central Institute of National Education which should advise the provincial Boards of Education. The Provincial Board of Education should provide on its academic side for efficient staffs of educational experts. This staff should carry on scientific research to fit the school curriculum to the real life of the people. The Board should also guide the training of teachers and supervisors. The Central Institute of National Education should be a non-official organization while the provincial Boards are meant to be Governmental organizations. The Central Institute, according to the Zakir Husain Committee, should be free from administrative responsibility and consist of persons eminent in the field of education as well as in other spheres of cultural activity. Its function should be to give advice on matters of educational policy and practice, to study and discuss the ideas and aims underlying educational efforts in India and outside and to make the result of this study available to all who are interested, to collect information, to organize research and to issue monographs and a magazine for educational workers.

The Committee in their letter to Gandhiji on the syllabus proposed for the schools recommended by them argued that it should be possible for provincial Governments to put the scheme into full working order and to introduce compulsory and free universal education in the whole country in about 20 to 25 years' time. “What we suggest,” they explained, “is the drawing up of a kind of 20 years' plan to provide basic education and to liquidate illiteracy. If this scheme is supplemented,” they add, “by some adequate system of adult education given through various agencies including the conscription of school and college students for the purpose, we have

*See *The English Nursery School* by Phoebe E. Cusden, sometime Organizing Secretary, Nursery School Association of Great Britain, Chapters I and II.

every hope that within that time India will have made rapid strides towards the goal of a 100 per cent literacy."

Of the Wardha Scheme as outlined above, there have been many criticisms. Thus, Dr. Reddy has vehemently criticised that part of the scheme which relates to the conscription of teachers and students. But he has nothing better to offer, and so long as the financial difficulties remain and the spirit of service not altogether deadened, some element of conscription should seem to be necessary for the realization within a measurable distance of time of the ideal of free and compulsory education of the masses. I have suggested in an earlier chapter the establishment of a Rural Education Commission which is to be financed out of the Rural Development Fund. This Commission, in the scheme that I have in view, and which I shall explain in the concluding section of this chapter, will somewhat correspond to the Central Institute of National Education recommended by the Zakir Husain Committee except to the extent that the Commission will primarily be concerned with the type of education that will be required for the rural areas. In a sense, having regard to the main ideas of the Wardha Scheme, that seems also to be the primary function of the Central Institute. In the scheme of education that I shall presently propose, the Rural Education Commission will be one of the parts that must be made to fit into the whole. But it will be the most important part as long as the Indian economic system retains its predominantly rural bias.

One thing, however, does not appeal to the educationist as such and that is the much-advertised self supporting character of the Wardha Scheme. Apart from the fact that the whole idea of making the education of the child an economic issue which is to be solved by the child and its teacher at the peril of losing the benefits of education altogether is wholly repugnant to the educational ideas of to-day, it involves too much of interference with the normal flow of the economic life and perhaps presumes a good deal of the ability of the State to act as a mercantile agent for the young learner. I have not been able to work out the full cost of the Wardha Scheme of education to the nation if its self-supporting character were withdrawn. I have, however, suggested that it should be possible to finance a scheme of free and compulsory education on the basis of the existing cost for a total annual expenditure of Rs. 30 crores. As the scheme of planning suggested in this volume assumes a thorough overhaul

of the national expenditure, it should not be difficult to find Rs. 30 crores for financing a national scheme of education out of existing revenues. If however, for any reason it is found impossible to find this money, there would be perhaps no option but to try the Wardha Scheme with its self-supporting system.

§ 5

SECONDARY EDUCATION.

Turning our attention now to secondary education, we find that there are three types of schools in India, namely, the High Schools, the Middle English Schools and the Middle Vernacular Schools. Of the total number of secondary schools in India about half is contributed by Bengal. Another characteristic of the Bengal system of secondary education is that while in other provinces the large majority of the schools are under public management, most of the schools in Bengal are under non-official management and control. As long ago as 1854, Sir Charles Wood had suggested the gradual withdrawal of the Government from direct responsibility for the conduct and maintenance of the institutions which they had established. This view found support in the Report of the Education Commission of 1882. In Bengal, this policy of encouraging private enterprise in the sphere of education has been more than fulfilled. Of some 3000 secondary schools in Bengal, a little over 100 are managed out of public or municipal funds. Many of the schools under private management, however, receive aids out of public funds. Of the High Schools about half are unaided.

The system of secondary education in the country discloses an absolute want of any plan. From the point of view of location, school building, curriculum and the personnel of the teaching staff, the secondary schools in India betray an unintelligent and haphazard development. The system does not even appear to be informed by a proper educational aim or policy. Education is not thought of in this country as an instrument of social training or national welfare, far less as a means for the development of character. It is treated rather as a channel for the mechanical conveyance of various kinds of information relating to diverse subjects which could be reproduced by the educand without proper assimilation at the time of the examination. There is little attempt to introduce or adapt modern educational practice in the organization of school life or in the

preparation of the curricula. Cramming of note-books and key-books takes the place of real learning and the curriculum suffers from a too much academic bias. Such indispensable elements of school education as physical training, games, scouting excursions, laboratory work, Nature study, training in handicrafts, school co-operative societies, music and school bands and other organizations representing co-operative effort are totally lacking in the scheme of education obtaining in the country. One of the reasons for the failure of the present educational system in terms of the modern ideals of education is the want of teachers trained in the new educational ideas. There are at present hardly two dozen institutions in the whole country for the training of teachers. Not that the country suffers from lack of suitable material in the teaching profession ; what the country lacks are the facilities for the training of teachers on modern lines. As the Hartog Committee have observed : "Of the general excellence of the material in Indian secondary schools for boys, those of us who have lived in the country can speak with confidence. The material, however, requires sifting, and insistence on proper selection of pupils for admission and retention is essential, if grave waste is to be avoided and good standards are to be maintained." The wastage in secondary education is particularly evident at the Matriculation stage. Only about 2 out of 5 boys in the Matriculation classes of the Bengal schools actually pass the examination which suggests that about 60 per cent of those who are in the Matriculation classes are unfit to be there. It is also on record that about 40 per cent of the students who pass the examination do not enter the University, so that the Matriculation is still the natural terminus for the educational career of 75 per cent of the students who read in the Matriculation class in the High Schools. This wastage at the Matriculation stage carries its own lessons, one of which is that the Matriculation syllabus is wasted in the case of the majority of the boys. It is here that the examples of other countries can give us some guidance. The fact has already been noted that in most of the advanced countries of the West, a definite relationship has been established between the educational system and the vocational or technical needs and that employment is still regarded, ~~excepting~~ for the few who are qualified enough to enter the University stage, as the aim and object of secondary education. Thus, the Sapru Committee on Unemployment in the United Provinces

have found from a study of the foreign educational systems that nearly everywhere the problem of education is viewed along with the problem of employment, and that the governments of those countries have tried and are trying to deal with the problem of unemployment at its source, namely, by reforming education in its earliest stages—primary and secondary—and by making suitable provision for the proper equipment of young persons for the struggle of life.* The Committee, in fact, were convinced that “the essentials of the problem in India lie in re-organizing our entire educational system so as to equip our young men with knowledge which may enable them to become useful economic units of the nation and efficient citizens.”† The main deficiency of the existing system is that the natural termination of the secondary stage of education is the Matriculation, and the Matriculation in India leads up logically without any break, for all those who want it and can pay for it, to the post-graduate degree except for those who have branched off into one or the other of the learned professions. The whole system suffers from an over-emphasis of the cultural aspect on the one hand and an absolute lack of consideration for those who fail to reach up to the cultural standard on the other.

§ 6

UNIVERSITY EDUCATION.

Just as there seems to be in the Indian educational system an over-emphasis of the cultural or academic aspect, there is also a real danger that in criticizing the cultural aspect one might lose sight of the fundamentals of an educational system. To re-organize the educational system does not necessarily involve a belittling of its cultural aspect. There is a common belief in India that there is a “craze” for higher or University education. The belief appears to be a mistaken one. The total number of students in the Universities of India does not exceed the total number of students in British Universities. The point of the comparison would be more clear when the size of India is compared to that of the United Kingdom. Further, the fact has already been mentioned that 75 per cent of those who are in the Matriculation class do not proceed to the

**Report of the U. P. Unemployment Committee, 1935, p. 209.*

†*Ibid, p. 219.*

University. Finally, if the number of those who have received higher education in India is considered as a percentage of the total population, the figure would not suggest that India is suffering from an over-dose of higher education.

There is no doubt that during recent years there has been a rapid expansion of University education. About a dozen Universities have been established since 1916, in addition to the existing ones. In spite of the movement towards "unitary" teaching Universities, as distinguished from "affiliating" Universities, the number of Arts Colleges affiliated to Universities increased from 122 in 1922 to 232 in 1927 and the students enrolled in them from 4,54,770 to 6,54,911. It is evident that the complete replacement of affiliating Universities by unitary Universities is not, as matters stand now, a practical proposition. The total number of unitary Universities in India is at present 7 but the total number of students in them is less than half the number in the Calcutta University alone which is soon expected to reach the colossal figure of 50,000. The unitary Universities are somewhat expensive institutions and the cost per pupil is particularly high for a poor country like India. In the case of most of the Western and American Universities it is the munificence of private patrons of learning that have been responsible for a great part of the sustenance of those Universities. In India the tradition persists of looking up to the Government for whatever educational assistance that may be required. Though private generosity has contributed handsomely to the maintenance of not a few Universities in India the proportion of the cost borne by the public exchequer is still unusually high for most of the Universities.

A University should be more than anything else a centre of research, of advancement of learning. But on account of the general poverty of the Indian tax-payer, few Universities can offer the luxury of research departments that do not appear to command any immediately utilitarian aspect. Where the up-keep of a University depends mostly on the fees obtained from students and on such assistance as the government may favour them with, it is idle to expect that under such circumstances, the University could become true to its functions and be a centre for higher research. The bulk of the teaching staff are usually under-paid and over-worked; they have in most cases to depend upon work outside of their college hours for supplementing their incomes. The

University Professors or holders of endowed chairs are in a better position, but few Universities can yet afford the cost of opening Departments which cannot be made self-sufficient from the fees obtained from the students belonging to that Department.

There is no uniformity of practice as to the exact stage at which entry to the University is permissible. That the University course should be pre-eminently a degree or post-graduate course admits of no differences of opinion. In our country, however, the University stage commences immediately after Matriculation except where a semi-independent Board has been established for the control of what we may describe as Intermediate Education—a fact which, so far as I know, is unknown to European systems. If 18 is to be accepted as a critical age in the educational system, it would be proper to take the Intermediate course out of the hands of the University, leaving the University free to devote itself to post-graduate work and research. The recent practice seems to be to set up a common Board for Secondary and Intermediate Education. Among the big Universities, the University of Calcutta still controls the entire course of education from the Intermediate stage upwards. Even the Matriculation examination is conducted by the University which has given rise to certain anomalies. The University grants affiliation to its constituent schools and through such affiliation exercises a measure of control over the secondary schools. At the same time the Department of Public Instruction also exercises control over the schools, more particularly over the Government and aided schools, thus leading to the phenomena of a dyarchical system of control. This is not a very happy state of things. It is understood that the Government of Bengal have already framed a scheme whereby the system of secondary education will be placed under the unitary control of a Board to be set up for the purpose. The University have already accepted the principle of a separate Board for the control of secondary education subject to certain conditions. But there is a good deal of differences of opinion as to the exact form of the Board on the one hand and the extent of its functions on the other. Educational opinion wants an autonomous Board whereas the Government of Bengal appear to have other ideas on the subject. It is evident that as the Matriculation and the Intermediate examinations provide the bulk of the fee income of the University which enables it to finance a variety of research programmes

and to maintain the post-graduate departments, the question of handing over the control of these examinations to a separate Board is beset with initial difficulties of a formidable nature. Yet the conclusion is irresistible that under the present system there is a good deal of confusion of issues and ideas on account of the absence of a proper demarcation of University work. A complete rationalization of the system of education will have to take note of the need for a proper assignment of the different stages of education to different but appropriate authorities.

§ 7

EDUCATIONAL RE-ORGANIZATION.

We are now in a position to gather up the strands of thoughts that have been expressed in the preceding sections and to weave them into a composite pattern of a national educational policy. The main ideas of the pattern can be set forth briefly as follows :

(i) *Pre-Primary Stage* : This stage should be under the supervision of a purely non-official organization formed on the lines of the British Nursery School Association consisting of experts and representatives of such social institutions as the Children's Fresh Air and Excursion Society, Society for the Protection of Children, Magistrates of the Juvenile Courts etc. The scope of the nursery school idea should be sufficiently wide to include problems of health, nutrition, recreations and the like. The Associations should be formed on a provincial basis.

(ii) *Primary Stage* : The minimum age of entry of a pupil to a primary school should be fixed at 6 and the course should extend over 5 years. The method of education should combine both the class and the pupil as teaching units, that is, a combination of the older methods of teaching with the new. The Wardha Scheme may be adapted to secure this purpose accordingly. In other words, the course of primary education should be limited to 5 years instead of 7 ; this would enable a quicker adjustment of the existing system to the new method. A period of 2 years may be added in the case of those pupils who may not go to a secondary school for the teaching of a particular vocation. The organization which should be placed in charge of this scheme should preferably be the Rural Education Commission. The Commission as already indicated will also be concerned with the organization of adult education in

the rural areas.* The aim should be to liquidate illiteracy by a double frontal attack—attack on the illiteracy of the child as well as on that of the adult. It should be the aim of the organization to achieve the liquidation of illiteracy within a period, say, 20 years.

(iii) *Secondary Stage* :—The minimum age of entry to the secondary school should be fixed at 10, the age for Matriculation being fixed at 15. The vocational bias of education should not be discontinued at this stage. On the contrary, the experience of other countries suggests that the education to be imparted at this stage should be predominantly vocational in character. The syllabus of study should offer a large number of alternative courses of study suited to the aptitudes of the different kinds of pupils. A number of compulsory subjects of cultural interest must, however, be retained in all the courses of studies. These subjects should include English literature, Indian and European history, mathematics, geography, one of the fine arts and elementary science together with some training in citizenship. As in the case of the primary stage, the course must be supplemented by a two years' apprenticeship in some recognised trade or vocation, so that at the age of 18 the student will be fully qualified to enter upon the occupation he has selected. Those of the students, however, who wish to qualify for a University course need not take the apprenticeship course at the end of the secondary stage, but proceed straight to the University for the degree course. The Intermediate course in Arts and Science may be abolished. The entire stage of secondary education should be under the control of a statutory but autonomous Board which should have an advisory body associated with it for the purpose of guiding vocational education.

(iv) *University Stage* :—The University stage should consist of a degree course supplemented by a post-graduate course. The degree course should be extended to cover a period of 3 years while the post-graduate course should consist of a special research subject to which only students who have taken up Honours in that subject for their degree course and have been duly certified as to their fitness should be admitted. A large number of stipends and scholarships should be made available for meritorious students in every subject offered in the post-graduate course.

(v) *Professional Courses* :—Such specialized courses as Law,

*See *ante*, Chap. XVI § 3.

Medicine, Engineering, etc., should be under the control of professional organizations or faculties. The respective syllabuses, courses of studies, qualifications of teachers, period of study etc., should be decided by these organizations which should be competent to award diplomas or fellowships in their respective faculties.

(vi) *The National Council of Education* :—This Council should be the parent organization to which all other educational organizations should be affiliated. The Nursery School Association, the Rural Education Commission, the Secondary Education Board and the different Universities and professional faculties should all be subject to the general supervision of the National Council. The Council should not be so much an executive body as a directive organization. It should be composed of eminent educationists and at least 2 representatives of each of the organizations affiliated to it. The deliberations of the National Council should aim at achieving co-ordination by a mutual exchange of ideas and experiences. It is intended that the organizations which are affiliated to the parent body should be formed on a provincial basis. It is also desirable that the different provincial organizations should annually meet in a conference to take a periodical stock of ideas, except in the case of the Rural Education Commission which should be a standing organization formed on an All-India basis but which should work through provincial agencies. This Commission would be subject on the academic side to the control of the National Council of Education and on its financial side to that of the Rural Development Trust.

It will be found from the brief description given above that a thorough re-organization of the educational system is postulated for reconstructing the educational system at present obtaining. The educational needs of the present age are different from those that were felt by our predecessors. It is generally agreed that the present system of education has grown out of date and nothing but a thorough overhauling of the present system can make it conform to the educational needs and aspirations of the present age. In any case, the reform suggested above is necessarily of a tentative character and is intended more to convey certain broad ideas of reconstruction than to give a cut-and-dried scheme of educational reconstruction.

Finance :—A word may be said about the question of finance. The scheme that has been suggested above assumes the de-provincialization

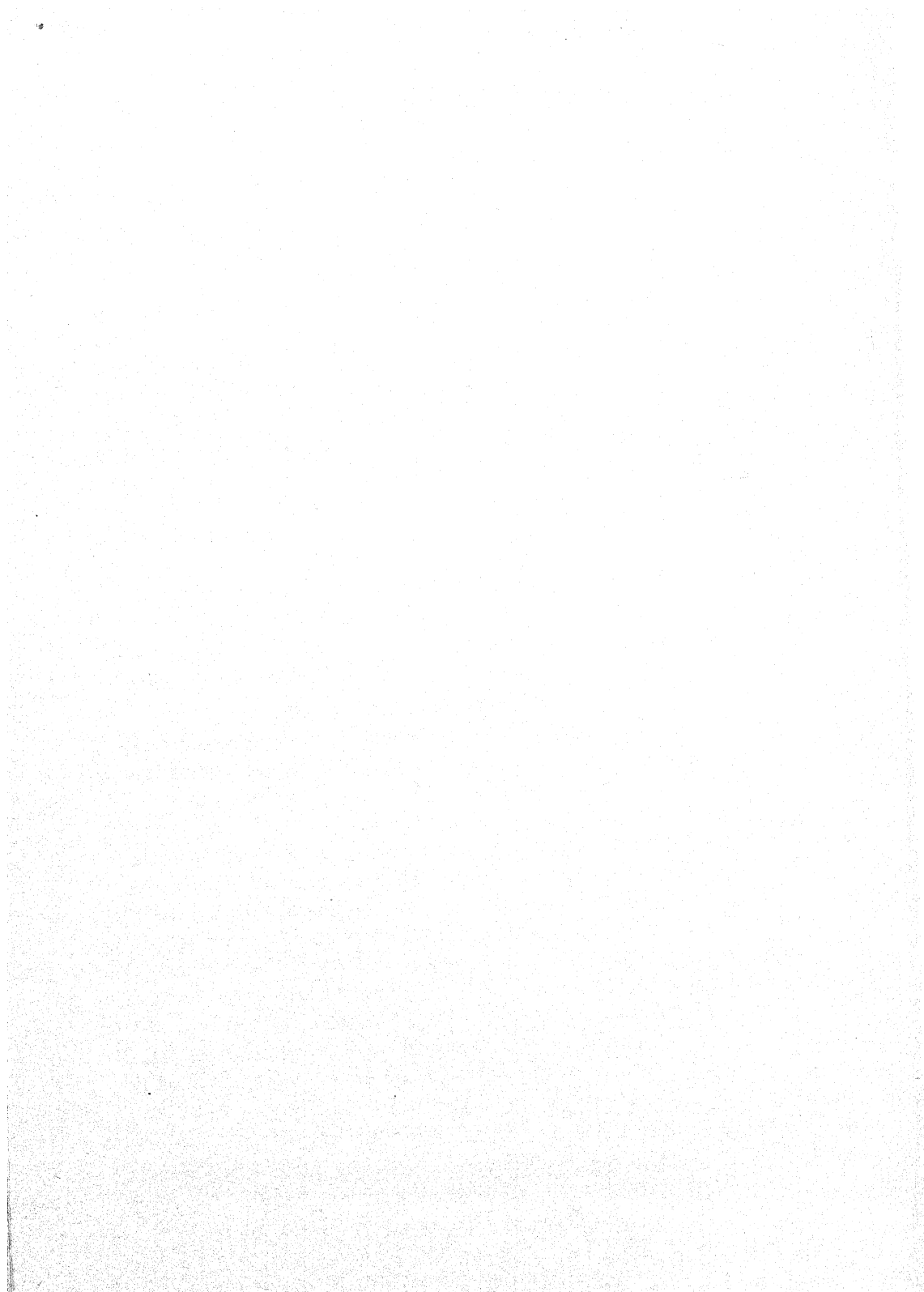
of the schools and colleges. The present anomaly under which, as in Bengal, a few schools and colleges are able to pay handsome salaries to their teaching staff and to offer generous facilities by way of laboratory and library equipments as well as opportunities for games and physical exercises while others are compelled to drag on from year to year on a level of absolute poverty with a miserably paid teaching staff and with students who are only given a semblance of education has been allowed to exist for an intolerably long time. This anomaly must be corrected, not by levelling down the favoured institutions but by levelling up the conditions prevailing in less fortunate institutions. The Government should release themselves from all direct responsibility for directing the educational progress of the country but must undertake the full financial responsibility for organizing a rational and adequate system of education for the country. In our country, these duties have been erroneously thought to be inseparable. The responsibility of the Government should be particularly obligatory in the case of University education which from its very nature can never be expected to be self-supporting. A fundamental part of the new scheme should be the multiplication of the facilities for the training of teachers. This, too, is a task of so much national importance that the Government should forthwith assume the full financial liability for establishing such institutions for the training of teachers as may be required according to the needs of the particular provinces concerned. Vacation courses or "refresher" courses such as those that are offered by the University of Calcutta should also form an integral part of the scheme for the training of teachers.

Examinations:—A few remarks may be, lastly addressed on the role that examinations play, or rather, ought to play, in a well-ordered scheme of education. Modern educational theories are absolutely against the system of examinations as it obtains to-day, most particularly, against what is called the system of external examinations. "In spite of the incessant wail against them for the best part of a century", says Sir John Adams, sometime Professor of Education in the University of London, "external examinations still remain in their unwarranted and hurtful position as the dominant influence in education of all grades. Nothing of vital importance can be done in the way of reforming educational methods till this incubus has been removed."* Even the Board of Education in England has, as Sir John

*Adams : *Modern Developments in Educational Practice*, p. 19.

reminds, set itself to reduce the total amount of examination work to be demanded from the pupils and has, in fact, reached the stage that only two examinations are absolutely necessary for the ordinary pupil taking a complete school course ending at eighteen. In the scheme that I have suggested the number of examinations will at least be reduced by the removal of the Intermediate examination and by the institution of a research degree for the post-graduate course. There is, of course, much to be said for the view that all examinations should be abolished except those that may be required for professional or industrial purpose, and that the system of examinations should be replaced by the system of inspection. This, in other words, amounts to the view that the educational authorities should be concerned only with satisfying themselves that a particular school which sends up pupils for the next higher stage of education is working on sound principles, is adequately staffed and equipped and is teaching the subjects that meet the needs of society. Students sent up by such schools should be treated as qualified either to enter the Universities or to take up whatever function they may desire to follow without any further examination on school subjects.

It is evident that in a country like India we shall have to proceed very cautiously. Examinations appear to have a traditional attraction for everybody concerned : teachers as well as the taught, educational authorities, parents and guardians, employers. The best course would be to keep down the number of examinations to the minimum, to extend the tutorial system where necessary, and to grant certificates which must be produced as a condition either for promotion to the next higher class or for admission to an examination at the end of the academic course. Sound methods of teaching should be encouraged by means of frequent inspections. It is also necessary that in order to develop the personal relations between the teachers and the taught the "House System" should be given a trial, but it is essential, before the system is introduced, that it should be free from any suspicions of a political nature. The highest kind of education, it must be remembered, is that which is derived from the personal and intimate relationship that should exist between the teacher and the taught.



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